

**Management
Training Manual
for Governing
Bodies of Municipal
Public Water
Systems**



Mississippi State Department of Health

Management Training Manual for Governing Bodies of Municipal Public Water Systems



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Board Management Training for Mississippi Public Water Systems



COMMUNITY RESOURCE GROUP

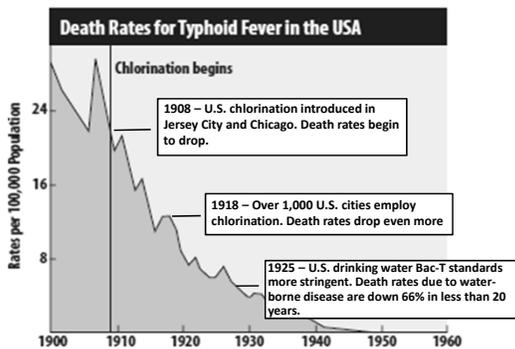
INTRO - 1

Agenda

- Introductions, Entrance Assessment, Video
- Laws and Regulations
- Board Members' Duties, Responsibilities, and Ethics
- Customer Service/Community Relations
- Rate Setting
- Management and Finance
- Long-Range Financial Planning
- Emergency Preparedness
- Exit Assessments, Certificates

INTRO - 2

Why are we here?



INTRO - 3

Concerns

- High percentages of drinking water utilities and wastewater utilities do not generate enough revenue to cover their full costs of service
- Majority of small utilities
 - Defer maintenance because of insufficient funding
 - Have 20% of pipelines near the end of useful life
 - Lack basic plans for managing capital assets

Source: Water Infrastructure: Comprehensive Asset Management Potential to Help Utilities Better Identify Needs and Plan Future Investments. Government Accounting Office, 2004.

INTRO – 4

Public Water Supply Board Management Training Introductory Video

To view this video, please visit
http://msucares.com/water/waterboard/board_training_videos.html
and select the Mississippi Public Water System Board Management
Training Video

INTRO – 5

Laws and Regulations



LR - 1

Formation of a Rural Water Association

- Must submit an application to the MS Secretary of State to become a nonprofit corporation
- Nonprofit organization - one that uses surplus revenues to achieve its goals rather than distributing them as profit or dividends.
 - Allowed to generate surplus revenues but the revenues must be retained by the organization for its self-preservation, expansion, or plans.

Association Manual – Section III, pg. 33

LR - 2

Formation of a Rural Water Association

- Legal authorization must be given to form the association and must be authorized by the Mississippi Public Service Commission to provide water to members in a designated area (MS Code 77-3-11)
- Must abide by the major rules of nonprofit corporations including membership, boards of directors, meetings and notices, voting procedures, developing and changing bylaws, etc.

Association Manual – Section III, pg. 33

LR - 3

“Things were so much better before we had all these regulations!”

LR - 4



“I wish we didn’t have all of this chlorine in our water. I used to enjoy drinking right out of the spring at the old homestead”

LR - 5

History of Drinking Water Regulations

- 1970: Nixon created the Environmental Protection Agency (EPA); PHS Drinking Water Program was transferred to EPA
- 1974: Congress adopted the Safe Drinking Water Act (SDWA) and established standards for State Primacy
 - Standardized the definition of a Public Water System (PWS) – Approximately 1,200 PWS in MS
 - All PWS were required to comply with national standards and inform customers of violations

LR - 6

Municipal Manual – Section II, page 15; Association Manual – Section II, page 15

1997: Mississippi Safe Drinking Water Act

- SDWA requires states to adopt regulations *at least as strict* as the current federal regulations including:
 - Minimum Engineering Design Criteria
 - Minimum Operator Guidelines
 - Plans and specifications required to be submitted for approval for all PWS upgrades and extensions
- Management training for PWS Boards required

LR - 7

Both Association and Municipal Manuals – Section II, pages 15 & 22-23

1997: Mississippi Safe Drinking Water Act (continued)

- SDWA established consistent requirements for:
 - Monitoring: Types of analysis, frequency and location vary depending on system type and size
 - Violations: Most due to inadequate monitoring, not for exceeding Maximum Contaminant Levels

LR - 8

Both Association and Municipal Manuals – Section II, pages 15 & 20

1997: Mississippi Safe Drinking Water Act (continued)

- Requires Water System to maintain records
 - Lab results, inspection reports, MSDH correspondence, sampling sites and violations. **These records must be available to MSDH inspectors.**
- Provides Technical Assistance
 - MSDH Regional Engineers
 - Community Resource Group-RCAP
 - Mississippi Rural Water Association
 - MSU Extension Service

LR - 9

Both Association and Municipal Manuals – Section II, page 15

1997: Mississippi Safe Drinking Water Act (continued)

Administrative Hearings/Penalties

- MSDH authorized to assess penalties of \$25,000/day
- Systems may appeal provided bond of 1.5 times the penalty is posted
- Fines or Penalties Last Resort: MSDH will work with systems which cooperate to correct problems, but may turn case over to U.S. EPA or call an Administrative Hearing

LR - 10

Both Association and Municipal Manuals – Section II, page 20

Ground Water Rule – December 1, 2009

- Required by EPA
 - Sanitary surveys of all public water systems
 - Identification of significant deficiencies
- All ground water systems began either source water monitoring or 4-log compliance monitoring

LR - 11

Both Association and Municipal Manuals – Section II

Ground Water Rule

- Source water monitoring
 - Triggered monitoring – systems that have a total coliform-positive routine sample in the distribution system are “triggered” to take raw water samples from the wells within 24 hours
 - Assessment monitoring – Systems with wells that are classified as either “moderate” and are less than 500 ft deep or “high” according to DEQ rankings are required to take one sample per month at those wells for 12 months upon notification from MSDH-BPWS

LR - 12

Ground Water Rule - Both Association and Municipal Manuals – Section II

Ground Water Rule

- 4-Log Compliance Monitoring
 - Free chlorine residual monitoring at or before the first customer, either daily or continuously (depending on population), and keeping a record of the results on Monthly Operating Reports.
 - Population **less than or equal to 3,300**: monitor and record the free chlorine residual at least once per day near each entry point with the well in service
 - Population **greater than 3,300**: continuously monitor free chlorine residual and record the lowest daily chlorine reading each day that the well was in service

LR - 13

Ground Water Rule - Both Association and Municipal Manuals – Section II

Ground Water Rule

- Sanitary Survey – comprehensive review critical elements of a water system and the identification of significant deficiencies
 - Significant deficiencies must be corrected within 120 days of notification, or the system must be in compliance with a State-approved plan of correction
 - Failure to correct significant deficiencies or comply with a plan within the appropriate time frame results in a Treatment Technique violation

LR - 14

Ground Water Rule - Both Association and Municipal Manuals – Section II

Ground Water Rule

- Violations of the GWR are categorized by severity, and consist of Tier I and Tier II violations
 - Tier I – E.coli positive well sample and require public notification within **24 hours of notification**
 - Tier II – Monitoring and treatment technique violations and require public notification within **30 days of notification**

LR - 15

Both Association and Municipal Manuals – Section II, page 16

What is Capacity Development?

The process by which a water system achieves and maintains the necessary Technical, Managerial and Financial capabilities to continue to deliver safe drinking water to customers now and in the future.

LR - 16
Municipal Manual - Section VIII, page 181; Association Manual - Section VII, page 203

Capacity Development Strategies for New Systems

- Long range budget must show the system has the necessary financial capacity to comply with SDWA requirements and a MS Public Service Commission review
- Engineering plans must meet minimum design criteria and must be within 75% Physical Capacity parameters (MSDH review)
- Must demonstrate that it can obtain competent and certified operators

LR - 17
Municipal Manual - Section VIII, page 181; Association Manual - Section VII, page 203

Capacity Development Strategies for Existing Systems

- Mandatory Technical Assistance for distressed PWSs as identified by MSDH and other agencies
- State Capacity Development Advisory Committee to periodically review Capacity Development plan and recommend incentives and new regulations to enhance PWS capabilities

LR - 18
Municipal Manual - Section VIII, page 181; Association Manual - Section VII, page 203

Common Significant Deficiencies

Distribution System

- Negative pressure that could cause contamination
- Inadequate disinfection residual monitoring

Finished Water Storage

- Inadequate internal cleaning/maintenance of tank
- Improper screening of overflow pipes, drains, vents
- Lack of necessary repairs of tank roofs or covers

LR - 25

Municipal Manual – Section VIII, page 181; Association Manual – Section VII, page 203

Common Significant Deficiencies

Pumps, Pump Facilities and Controls

- Inadequate pump capacity
- Inadequate maintenance
- Inadequate/inoperable control system

Monitoring, Reporting and Data Verification

- Not monitoring according to site sampling/monitoring plan
- Not meeting reporting requirements

LR - 26

Municipal Manual – Section VIII, page 181; Association Manual – Section VII, page 203

Common Significant Deficiencies

System Management and Operation

- Failure to meet water supply demands
- No approved Emergency Response Plan or Security Vulnerability Assessment
- Inadequate follow-up on previous deficiencies
- Inadequate security measures

LR - 27

Municipal Manual – Section VIII, page 181; Association Manual – Section VII, page 203

Checklist of Policies for Capacity Inspection

- Board meeting minutes
- Updated Security Vulnerability Assessment and Emergency Response Plan
- Water User's Agreement
- Subdivision/Line Extension policy
- By-laws or Job Description for employees
- Certificates of Board member Training
- Long Range Improvements plan
- Cross Connection policy
- Record of last rate increase or results of last rate study
- Policy requiring rate to reviewed annually
- Cut-off policy and copy of current cut-off list
- Annual budget/Financial Report
- Audit Report filed with State Auditor's Office

LR - 28

Municipal Manual – Section VIII, page 181; Association Manual – Section VII, page 203

Record Keeping

- SDWA Compliance Records and Correspondence
 - Bacteriological analyses and sample site plan (5 years)
 - Lead and copper analyses and sample site plan (12 years)
 - All other water quality analyses (10 years)
 - Sanitary surveys (10 years)
 - Actions taken by system to correct violations (3 years)
 - Records concerning a variance or exemption (5 years)
 - Annual reports (3 years)
 - Operator's logbook (5 years)
 - MSDH Correspondence (3 years)

LR - 29

Municipal Manual – Section II, page 16 & Section VIII page 181;
Association Manual – Section II, page 16 & Section VII page 203

Disinfection Byproducts Rule

- Each supplier of water must comply with the disinfection byproduct sampling, analysis and all other requirements including monitoring the Maximum Contaminant Levels of:
 - Total Trihalomethanes (TTHMs of 0.08mg/L)
 - Haloacetic acids (HAA5s of 0.06mg/L)
- These occur when naturally-occurring organic and inorganic materials in the water react with the disinfectants, chlorine and chloramine

LR - 30

Both Association and Municipal Manuals – Section II, page 21 & 23

Consumer Confidence Report

- Public Water Systems must prepare and provide customers with annual drinking water quality reports by July 1, delivered in a cost-effective and practical manner
- Contact Joan Cockrell with MSDH for questions regarding CCR delivery

Population	
Less than 500	Prepare CCR and issue notice of availability (can be done electronically)
500-10,000	Deliver CCR to each customer or publish CCR in newspaper/on website. Notify customers CCR will not be mailed
10,000 +	Deliver a copy of CCR to each customer

LR - 34

Municipal Manual – Section II, page 16; Association Manual – Section II, page 16

Consumer Confidence Report

- Electronic delivery must be provided “directly” meaning a clearly printed website link (for example printed on customers’ bills) that takes customers directly to the CCR
- The use of social media (Twitter, Facebook, etc.) does not meet the requirement to “directly deliver” the CCR to customers since these websites require customers to join the website to receive the notification

LR - 35

Municipal Manual – Section II, page 16; Association Manual – Section II, page 16

MS811 – “Call Before You Dig”

- Designed to protect underground facilities from damage and destruction
 - Also designed to prevent injury and loss of life
- Mandates communication between excavators and utilities
- Mandatory for utilities to join – no membership fee; utilities pay by request
- Assistance available to develop system maps

LR - 36

Municipal Manual – Section XVI, page 377; Association Manual – Section XV, page 391

Cross Connection Control

- Prevent outside liquids from being vacuumed into the distribution system in the event of low system pressure
- Controls required for connections that are significant risks – funeral homes, chemical companies, agricultural operations, etc.
 - Residential controls - typically simple devices consisting of a single-flap valve and don't require testing
 - Commercial/Industrial/Agricultural controls must be inspected and tested annually by a certified inspector

Sample of Cross Connection Control Program: LR - 37
Municipal Manual – Section V, pages 88-93; Association Manual – Section V, pages 124-129

On-site Wastewater

- An Individual On-site Wastewater Disposal System is a sewage treatment system that does not discharge into waters of the state and provides a sanitary method for the disposal
- No water connections without written approval from MSDH certifying that the wastewater system for the property complies with regulations.
- Temporary connections during construction if MSDH has an approved plan/permit for the on-site wastewater system

LR - 38
Municipal Manual – Section II, page 25-26; Association Manual – Section II, page 25-26

Water Fluoridation

- Average cost to the system between \$0.50-\$3.00 per customer per year
 - Approximately 70% of U.S. residents on PWS receive fluoridated drinking water
 - Only 58.2% of Mississippi residents receive fluoridated drinking water
- Systems failing to comply must notify customers through the CCR

LR - 39
Municipal Manual – Section II, page 26-27; Association Manual – Section II, page 26-27

Community Water Fluoridation Program

- Public water systems serving a population of at least 2,000 shall be required to install fluoridation treatment equipment **if** sufficient funds are available
- MSDH Dental Service and BPWS Drinking Water System Improvements Revolving Loan Fund Program provides loans to install or rehabilitate existing fluoride treatment facilities

LR - 40

Municipal Manual – Section II, page 26-27; Association Manual – Section II, page 26-27

Other Laws and Regulations

- All systems should have access to a competent attorney to assist in complying with rules and regs
- All systems must be operated by a state-certified operator
- Additional regulatory agencies may include:
 - Public Service Commission
 - Secretary of State
 - State Auditor
 - Mississippi Ethics Commission
 - Department of Environmental Quality

LR - 41

Municipal Manual – Section II, page 25; Association Manual – Section II, page 25

Operator Certification

- MSDH operator certification required in the appropriate system class and must meet educational and experience requirements
 - Operators with up to 9 years of continual certification must earn 48 CEU hours every 3 years
 - Operators with 9 or more years of continual certification must earn 24 CEU hours every 3 years
- Attending additional classes over minimum CEU requirement helps operators stay current on best practices and regulatory updates

LR - 42

Municipal Manual – Section X, page 256-262; Association Manual – Section IX, page 277-283

Operator Training

- Operator training hours requirements can be checked in the Operator CEU database
 - Go to <http://msucares.com/water>
 - Click on the **Database** link on the right side
 - When login screen appears, use **water** as the password
 - Must know the operator certification number
 - Click **Print** to generate transcript of attended trainings

LR - 43

Municipal Manual – Section X, page 256-262; Association Manual – Section IX, page 277-283

Questions?



LR - 44

Duties and Responsibilities

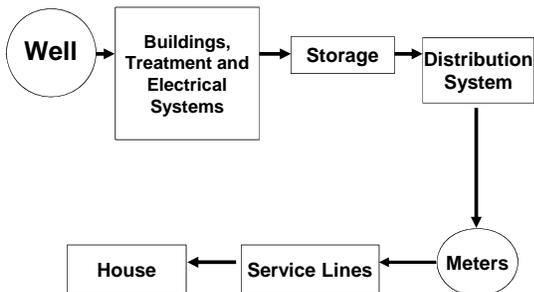
DR - 1

The Board is legally responsible for all aspects of the water system. This includes employee supervision, finances, operations and maintenance, planning and compliance with safe drinking water regulations.

Municipal Manual – Section I, pages 1-2 & Section IV, page 43;
Association Manual – Section I, pages 1-2 & Section III, page 38

DR - 2

Your Water System



DR - 3

What is required to keep all of these water system components operational?

DR - 4

What is required to keep all of these water system components operational?

Maintenance

DR - 5

Whose responsibility is it to ensure that maintenance is being correctly performed on your water system?

DR - 6

Whose responsibility is it to ensure that maintenance is being correctly performed on your water system?

It is your responsibility as a board member to ensure the maintenance is performed.

It is the responsibility of the certified operator to perform the maintenance or to make sure it is performed by a competent contractor

DR - 7

Types of Maintenance

- Preventive Maintenance
 - The routine inspection, lubrication, calibration and monitoring of system components
- Scheduled Maintenance
 - Planned corrective repairs to system components
- Emergency Maintenance
 - Corrective repairs not planned but necessary to prevent catastrophic system failure, property damage or injury

Examples of Preventative, Scheduled, & Emergency Maintenance Procedures:
Municipal Manual – Section XI, pages 264-266;
Association Manual – Section X, pages 287-289

DR - 8

Outages/Boil Water Notices

- **Outage** is defined as a loss of pressure (below 20 psi) or loss of flow of water on all or part of system (an outage)
- **Causes**
 - Power outages
 - Well problems
 - Broken lines and major leaks
 - Failed bacteriological monitoring (usually directed by MSDH)
 - Inoperative chlorination equipment
- Should issue **Boil Water Notice** in accordance with MSDH guidelines

Both Association & Municipal Manuals – Section II, page 16-19

DR - 9

Fiduciary Responsibilities

- Manage water system finances
- Safeguard system assets
- Procure insurance coverage
- Require fidelity bonding
- Employee theft
- Procure independent audit services
- Maintain relationships with customers

DR - 10

Municipal Manual – Section IV; Association Manual – Section III

Procurement of Goods and Services

Purchasing goods and services for and through the system

- | | |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Goods• Non-competitive purchases• Competitive bids | <ul style="list-style-type: none">• Services• Education/certification• Experience/references• Familiarity/expertise• Capacity to perform |
|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

DR - 11

Municipal Manual – Section VII; Association Manual – Section VI

Bids and Contracts

- Municipalities and Districts must comply with Mississippi law
 - Under \$5,000 – no bid or advertisement
 - \$5,001-\$50,000 – No advertisement, 2 bids
 - Over \$50,000 – Accept the lowest **and best** bid after 2 consecutive weeks of advertising
- Nepotism laws (favoring relatives or friends) do apply when accepting bids/contracts

DR - 12

Municipal Manual–Section VII, page 120-124; Association Manual–Section VI, page 142-146

Differences between Bylaws and Policies/Procedures

- **Bylaws are adopted by the membership**
 - Set forth the purpose and the rights of the organization
 - Outline type of services provided
 - Dictate employee's responsibilities and policies and procedures
- **Policies and procedures are voted on by the Board and cannot overshadow or conflict with the system's bylaws**

DR - 13

How bylaws manage and regulate the corporation

- Set a fixed time for the annual meeting (Section 79-11-97)
- Terms of the directors (these cannot exceed 5 years but may be staggered to insure management continuity for the system) (Section 79-11-239)
- Authentication of minutes (Section 79-11-271)
- Members have a right to inspect and copy the records of the association (Section 79-11-285)

DR - 14

Municipal Manual - Section I, pg. 1-3; Association Manual - Section III, pg. 34

An ordinance establishes definitions, policies, charges and rates for municipal systems.

Ordinances serve the same purpose for municipalities that bylaws and policies and procedures serve for water associations.

DR - 15

Both Association & Municipal Manuals-Section I, page 2

Policies and Procedures

- Standard Operating Procedures (SOPs) act as a daily guide for employees
- Help maintain consistency in operations
- Prevent discrimination
- Act as a reference or instruction for employees

DR - 16

Municipal Manual – Section V; Association Manual – Section V

Other General Policies and Procedures Examples

- Collection & cut-off
- Customer service
- Financial internal control
- Emergency/boil water notices
- Subdivision/line extension
- Fire hydrant
- Rate review
- Job descriptions
- Water users agreement
- Standard operating procedures
- Flushing program stds
- Long-range plan
- **Emergency Operating Procedures**
 - ***Emergency Response Plan***
 - ***Security Vulnerability Assessment***

DR - 17

Municipal Manual – Section V; Association Manual – Section V

Board Policies - IRS Form 990

- This form requires that organizations have policies in place for:
 - Executive compensation
 - Whistle blowing
 - Record retention
 - Conflict of interests
 - Document destruction
- These policies should be **written, approved by the board and entered into the minutes**

DR - 18

Association Manual – Section III, page 41

Board Policies

- Executive Compensation

- Any compensation must be approved by the entire board
- To comply with IRS requirements this must be a reasonable financial agreement
- There should be no off-agreement benefits

Association Manual – Section III, pages 40 & 43

DR – 19

Board Policies

- Record Retention Policy

- Record Retention Policy establishes the proper files that need to be retained for the organization to exist and function and as evidence for potential legal matters, system history, and strategic planning.
- Section III in Board Management Training Manual, IRS Publication "Compliance Guide for Tax Exempt Organizations" and consult with your system's accountant and attorney

Association Manual – Section III, pages 42-43

DR – 20

Board Policies

- Document Destruction Policy

- Documents (including electronic documents and voicemails) cannot be destroyed if the organization is or may soon be under investigation for any reason.
- Document Destruction Policy must establish:
 - Which documents can be destroyed
 - When they can be destroyed
 - How to go about destroying them

Association Manual – Section III, pages 42-43

DR – 21

Board Policies
- Whistleblower Policy

- Whistleblowers are protected by the Sarbanes-Oxley Act of 2002 (federal law)
- Whistleblowing policies concern a person who reports dishonest or illegal activity occurring in an organization

Association Manual – Section III, page 42

DR – 22

Board Policies
- Whistleblower Policy

- Should address:
 - What constitutes illegal or dishonest activity in general terms
 - How these activities should be reported
 - How these activities should be investigated
 - Safeguards to protect the whistleblower
- To be effective:
 - Clear processes in place for reporting illegal activity
 - Clear penalties when violations occur
 - Strict adherence to these policies is critical

Association Manual – Section III, page 42

DR – 23

Board Policies
- Conflict of Interests

- Each board member should disclose any potential conflicts of interest and put the interests of an organization above any self-serving interests
- Have a clear manner for disclosing and addressing conflicts as they arise and a written policy detailing actions to be taken by both the individual member and the board as a whole

Additional information in Miss. Code Ann. § 79-11-269 and the Nonprofit Act

Municipal Manual – Section VII, page 110; Association Manual – Section III, page 42

DR – 24

Board Policies

- Conflict of Interests

- Potential conflicts of interests should be disclosed when a member joins the board to be reviewed by the other board members
- Ongoing and serious conflict of interest may lead to that member resigning from the board
- Board Member – Employee
- Board Member – Board Member
- Board Member – Vendor
- Employee – Employee

DR – 25
Municipal Manual – Section VII, page 110; Association Manual – Section III, page 42

Board Policies

- Conflict of Interests

- Types of conflicts of interests:
 - Financial
 - Loyalty to multiple organizations
 - Conflicting roles and relationships
- This policy is essential to:
 - Avoid legal problems
 - Avoid public scandals
 - Have a functioning organization

DR – 26
Municipal Manual – Section VII, page 110; Association Manual – Section III, page 42

Board Policies

- Ethics

- A **written, approved and adhered to** board policy is crucial to maintaining:
 - Organizational integrity
 - Public trust
 - Employee-Board relations
- Ethical businesses
 - Abide by all applicable laws and regulations
 - Demonstrate care for the well-being of the community and the organization
 - Have **written** penalties for inappropriate behavior

DR – 27
Municipal Manual – Section VII, page 110; Association Manual – Section III, page 41

Board Policies

- Ethics

Individuals in an organization should treat with respect and consideration all persons, regardless of :

- Race
- Religion
- Gender
- Abilities
- Age
- National Origin
- Sexual Orientation
- Political Beliefs
- Military Service
- Creed

Municipal Manual – Section VII, page 110; Association Manual – Section III, page 41 DR – 28

Role of a Board Member

- The function of a board member and his/her level of involvement varies with each organization.
- Above all, a board member's responsibility is to enable the organization to achieve its stated goals and protect the public's (including customer's) interest.

Municipal Manual – Section IV; Association Manual – Section III, pages 38-39 DR – 29

Role of a Board Member

- **Duty of Care:** must be present at meeting and prepared to make informed decisions
- **Selection of Chief Executive:** important for the day to day functioning of the organization
- **Organizational Direction:** the board sets goals and then carries them out
- **Strategic Planning:** long term goals and long range financial health of the organization

Municipal Manual – Section IV; Association Manual – Section III, pages 38-39 DR – 30

Role of a Board Member

- **Stewardship:** ensuring that the organization's resources are used in the best way possible to benefit the public and the customers
- **Aid to Staff:** assisting the organization's staff in big and small matter when needed
- **Community Relations:** board members should represent the organization well in the community and inform customers of the organization's plans and activities

Municipal Manual – Section IV; Association Manual – Section III, pages 38-39 ^{DR - 31}

Role of a Board Member

- **Ethics:** should create an environment of ethical behavior and hold other members accountable to the highest ethical standards
- **Oversight:** should always be aware of how the organization is functioning and how resources are being used to ensure that the organization is complying with all laws and regulations

Municipal Manual – Section IV; Association Manual – Section III, pages 38-39 ^{DR - 32}

Duties of Officers

- **President/Mayor/Chairman**
 - Executive Officer
 - Enforces Policies
 - Calls special meetings
 - Presides over Board meetings (maintains order)
 - Legal point of contact for regulatory agency correspondence/actions

Municipal Manual – Section IV; Association Manual – Section III ^{DR - 33}

Duties of Officers

- Vice-President/Mayor Pro Tem/Vice-Chair
 - Presides over Board meetings in the absence of the President/Mayor/Chairman
 - Performs other duties as assigned by the President/Mayor/Chairman
- Secretary-Treasurer/Secretary/Town Clerk
 - Records Board minutes
 - Receives, presents and keeps correspondence
 - Maintains financial records

DR - 34

Municipal Manual – Section IV; Association Manual – Section III

Types of Meetings

- Monthly Board meetings
- Regular annual meetings
 - Annual meetings of non-profit associations are legally required
- Special meetings
 - If a special meeting is called, the purpose of the meeting must be stated; this is the only business that can be addressed
- Notification
 - Comes from the President or Chair; Secretary is usually asked to mail notices or make calls

DR - 35

Municipal Manual – Section IV; Association Manual – Section III, page 44

Agendas

- Usually developed by President, manager or a designated board member to ensure that business will be conducted in an orderly and efficient manner
 - Should have an approved policy setting a deadline for adding agenda items
 - Should have an approved policy stating how long customers can speak at board meetings
- Outlines the nature of the business of the board meeting and allows time for better preparation by the Board to discuss pertinent business

DR - 36

Municipal Manual – Section III, page 33-34; Association Manual – Section IV, page 63-64

Sample Meeting Agenda

- Call to order (President)
- Patriotic exercise or opening prayer (optional)
- Roll call (Secretary)
- Reading/approval of minutes
- Public comment
- Financial report (Treasurer)
- Committee reports
- Old business
- New business
- Approval of claims
- Adjournment

DR - 37

Municipal Manual – Section III, page 33-34; Association Manual – Section IV, page 63-64

Meeting Introduction

- Certification of Quorum
- Call to Order
- Invocation/Pledge (optional)
- Reading and approval of minutes

DR - 38

Municipal Manual – Section III, page 33-36; Association Manual – Section IV, page 63-66

Meeting Introduction (Assn)

- Unless the articles of incorporation or bylaws require a higher or lower quorum, 10 percent of the votes entitled to be cast on a matter must be represented at a meeting of members for a quorum to exist
- Unless one-third or more of the voting power is present in person (or proxy) the only matters that may be voiced at an annual meeting are those described in the meeting notice

DR - 39

Municipal Manual – Section III, page 33-36; Association Manual – Section IV, page 63-66

Old Business

- Chair raises items that were tabled or not acted on at previous meetings
- Chair gives opportunity for other members to bring up other old business for discussion

DR - 40

Municipal Manual – Section III, page 33-36; Association Manual – Section IV, page 63-66

New Business

- Review of monthly financial reports
 - Individual Board members review reports
 - Discussion/questions
 - Chair calls for motion to accept financial reports
- Operator/O&M monthly reports
 - Operator presents written and oral O&M report
 - Discussion/questions
 - Chair calls for motion to accept O&M report

DR - 41

Municipal Manual – Section III, page 33-36; Association Manual – Section IV, page 63-66

New Business (continued)

- Review, discussion and approval of claims
 - Board members review each invoice or claims docket
 - Discussion/questions
 - Chair calls for motion to pay claims
- All other new business
 - Chair brings up other new business items listed on agenda
 - Chair gives other Board members the opportunity to raise other new business

DR - 42

Municipal Manual – Section III, page 33-36; Association Manual – Section IV, page 63-66

Adjournment

- Board decides date, time and location of next meeting
- Chair calls for motion to adjourn meeting



DR - 43

Municipal Manual – Section III, page 33-36; Association Manual – Section IV, page 63-66

Rules for making motions

1. Chair calls for motion
2. Chair calls for second
If there is no second, the motion dies and chair must proceed to next item of business
3. Chair calls for discussion
At any point during the discussion, any Board member, other than the Chair, can make an **incidental motion** amending the main motion

DR - 44

Municipal Manual – Section III, page 35; Association Manual – Section IV, page 65

Voting on motions

- At any time, a Board member can motion to end discussion
- Standing motions are voted from newest to oldest
- If an incidental motion passes, then the main motion dies

DR - 45

Municipal Manual – Section III, page 35; Association Manual – Section IV, page 65

Minutes

- Minutes are the legal record for Board actions
- Minutes confirm what business was conducted by the Board and may provide critical evidence of Board decisions
- A poor set of minutes often leaves Board members vulnerable to criticism and legal action

DR - 46

Municipal Manual – Section III, page 34-35; Association Manual – Section IV, page 64-65

Minutes (continued)

- Detailed enough to give the important aspects of the meeting but not so detailed to record every comment
 - Nature of meeting
 - Time/date/location
 - Board members present and absent
 - Matters discussed and actions taken (including votes)

DR - 47

Municipal Manual – Section III, page 34-35; Association Manual – Section IV, page 64-65

Open Meetings Law

All official meetings of any public body, unless otherwise provided in this chapter or in the Constitutions of the United States or the State of Mississippi, are declared to be public meetings and shall be open to the public at all times unless declared an executive session as provided in section 25-41-7 and section 79-11-205

(Mississippi Code of 1972; revised 2013)

DR - 48

Municipal Manual – Section III, page 45-51; Association Manual – Section III, page 45-47

Rights of Members (Assn)

- A member is entitled to inspect and copy any association records listed under the record-keeping requirements at any reasonable time and location specified by the association, if the member gives the association written notice of this demand
- If the member follows proper legal procedures to inspect or copy records, the court may be involved

DR - 49

Association Manual – Section III, page 46-47

Operator Duties/Responsibilities

- The operator serves as a liaison to MSDH, EPA and customers with questions regarding water quality, testing and monitoring, or SDWA compliance and is responsible for MSDH correspondence addressed to the operator
- Assist in system management where applicable (the board and/or general manager)
- May include other management responsibilities
 - For some systems, operator may be required to assume system management tasks

DR - 50

Municipal Manual – Section X; Association Manual – Section IX

Operator Duties/Responsibilities

- Operators must maintain:
 - Water system logbook including records of:
 - Maintenance procedures and system repairs
 - Records of sampling/GWR requirements
 - Could contain routine tests (Cl₂, Fe, Ph, F) or these results can be recorded on a separate sheet
 - Additions of chemicals to treatment process
 - Logs are property of the water system and may be inspected at any time by MSDH or other regulatory agencies

DR - 51

Municipal Manual – Section X; Association Manual – Section IX

Questions?



DR - 52

Customer Service Community Relations

CS - 1

Community Relations Video

- To view this video and more, visit msucares.com/water

CS - 2

Municipal Manual – Section XV, page 341; Association Manual – Section XIV, page 363

Community Relations

- Why are community relations important?
 - Strengthen the system's position in the community
 - Promote goodwill between employees and customers
 - Weaken the impact of any negative publicity or rumors
 - Educate the community about the importance of water, water use, and conservation

CS - 3

Municipal Manual – Section XV, page 341; Association Manual – Section XIV, page 363

Community Relations Program Components

- Develop a mission – To provide a safe and affordable water supply to customers in the community
 - This may be the most important area you address as a board member because it requires planning for the longevity and success of the system

CS - 4

Municipal Manual – Section XV, pg. 341-344; Association Manual – Section XIV, pg. 363-366

Community Relations Program Components

- Examples of clearly defined goals and objectives:
 - Goals – Where do you want to go?
 - Pay off long-term debt
 - Expand service to other areas, including drilling additional wells to insure adequate future water supplies for growing customer base
 - Objectives – How are you going to get there?
 - Implement a collections and cut-off/on fee to generate additional funds
 - Revise and improve scheduled maintenance plan to maintain assets
 - Expand customer service and community relations efforts

CS - 5

Municipal Manual – Section XV, pg. 344; Association Manual – Section XIV, pg. 366

Developing Community Support

- **Show your willingness to listen!**
 - Install a “Suggestion Box” at bill payment locations
 - Conduct a customer survey to assess customer satisfaction and identify concerns
 - Be hospitable to customers who attend meetings
 - Don’t act like you are the “**Bosses.**” Maintain an attitude that you “**serve**” the community.

CS - 6

Municipal Manual – Section XV; Association Manual – Section XIV

Developing Community Support

- **Be innovative in getting customers to special or regular meetings**
 - Request local businesses and/or some of your vendors to assist in providing resources for a cookout or meal for community meetings
 - Conduct a drawing for giving out small door prizes for customers who attend community/system meetings

CS - 7

Municipal Manual – Section XV; Association Manual – Section XIV

Developing Community Support

Be HONEST and do not keep anything hidden from your customers when you encounter a problem or need their support!

CS - 8

Municipal Manual – Section XV; Association Manual – Section XIV

Value Your Customers

- Ensure that all employees from your meter reader to the operator to the bookkeeper respect all customers and are always courteous.
- Listen carefully to customer problems and point of view
- Get to know your customers

CS - 9

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Value Your Customers

- Ensure that all employees take care not to damage customer property and, as much as possible, to leave property as it was found
- Make customers feel important and welcomed at meetings

CS - 10

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Customer Relationship Skills

- Demonstrating a positive and caring attitude
- Communicating effectively
- Following up on problems

CS - 11

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Situations for Using Customer Service Skills

- Unhappy customers
- Interruption of water service
- Water system repairs
- Rate increases
- Water rate disputes
- Water leaks
- New projects

CS - 12

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Communications Resources

- Financial Resources: Budget funds designated for communication with customers
- Human Resources: Operator, Directors, Attorney, Secretary/Clerk, Engineer
- Media Resources: Newspapers, Radio Stations and TV can be useful to convey information

CS -13

Municipal Manual – Section XV, page 347; Association Manual – Section XIV, page 369

Communications Resources

- Designate **one** media spokesperson to ensure that *accurate* information is delivered to the public through the media from a calm, assured system representative
 - Knowledgeable about the system and has a good personality
 - More than one person speaking on behalf of the system can send confusing messages
 - Inaccurate information/over-sharing of information

CS -14

Municipal Manual–Section XV, page 347; Association Manual–Section XIV, page 369 & 371

Community Relations

- **Keep customers informed!!!**
 - Consider biannual, quarterly, monthly newsletters
 - Develop a good relationship with the local newspaper
 - Make appearances at other organizations' meetings to inform members about their water system
 - Churches, civic organizations, schools (especially kindergarten and elementary schools)

CS -15

Municipal Manual – Section XV; Association Manual – Section XIV

Communications Tools

- Newsletters
- Consumer Confidence Report
- E-mail
- Websites
- Facebook
- Twitter
- Automated Messaging

CS - 16

Municipal Manual – Section XV, page 352-355; Association Manual – Section XIV, page 373-376

Newsletters

- The most common method of communicating with customers
- Size typically ranges from 1 - 4 pages
- Quarterly or monthly – content should be fresh with each issue
- Can be sent with water bills, as separate mailings, and/or available online

CS - 17

Municipal Manual – Section XV, page 352-355; Association Manual – Section XIV, page 373-376

Newsletters

- What to include:
 - Letter/memo from the board president and/or members
 - Notices of regular, special, or annual meetings
 - Updates on construction, maintenance, or expansion projects
 - Frequently asked questions/answers
 - Highlights of employee trainings (let customers know they are being served by competent personnel)

CS - 18

Municipal Manual – Section XV, page 352-355; Association Manual – Section XIV, page 373-376

Consumer Confidence Report

- While the CCR reports sampling/operational results, it can also be used as a customer service tool by offering customers additional information about the system
- Examples of effective CCRs
 - East Lowndes Water Association
http://www.eastlowndes.com/water-quality_2009.htm
 - City of Biloxi
http://www.biloxi.ms.us/PDF/WaterQuality07_Web.pdf

CS - 19

Municipal Manual – Section XV, page 353; Association Manual – Section XIV, page 374

Electronic Communication

- Why use electronic communications?
 - Customers are now technology adept
 - Cost of distribution is almost zero
 - Easier to refer customers to a website for instant information than to make them wait 3-5 days for a USPS letter
 - Much easier to maintain or update customer notice information

CS - 20

Municipal Manual – Section XV, page 353-354; Association Manual – Section XIV, page 374-375

E-mails Best Practices

- While free accounts (gmail, yahoo, hotmail) are available, an entity-related domain is more professional (but can be costly)
 - manager@[eastlowndes.com](mailto:manager@eastlowndes.com)
 - manager@[bcwaterms.org](mailto:manager@bcwaterms.org)
- Domains are relatively inexpensive and provide the basis for websites and blogs
 - Can be obtained from internet service providers

CS - 21

Municipal Manual – Section XV, page 353; Association Manual – Section XIV, page 374

E-mails Best Practices

- To be effective, customer e-mail addresses must be collected and kept confidential
- Use e-mail client groups, blind copies, or listserv groups like GoogleGroups or YahooGroups to maintain confidentiality
- Provide an easy method for customers to “unsubscribe”

CS - 22

Municipal Manual – Section XV, page 353; Association Manual – Section XIV, page 374

Websites

- Today’s customers expect a website
- Constant way for customers to obtain information and interact with the utility
 - Bylaws
 - Director/employee profiles
 - Expansion/construction updates
 - Payment methods
 - Rate structure
 - Hours of operation
 - Emergency contact information

CS - 23

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Websites

- Website programming can be moderately expensive; in most cases, you get what you pay for
- An entity-based domain is required for a professional appearance (xyzcountywater.net)

CS - 24

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Facebook

- Systems **CAN** eliminate the ability for customers to post unwanted comments or complaints publicly on the page.
 - Customers may still send private messages to the administrator if they choose
 - Use the page only for providing public notices or general information to customers

CS - 25

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Facebook

- Allows customers to choose to “Like” your page and receive the information you post
- There are specific settings for organizations and businesses to allow professional informational postings
- Notices, updates, outage reminders, construction can all be useful to Facebook page followers

CS - 26

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Facebook

- For additional information regarding a business Facebook page, visit <https://www.facebook.com/business/overview>



CS - 27

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Twitter

- Popular information network designed to share 140 characters of information quickly such as news and short updates
- Users have the option to “follow” or “unfollow”
- For more info, go to *Twitter 101 for Business* at business.twitter.com

CS - 28

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Twitter



CS - 29

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Social Media

- The most important thing to remember about using social media for your system...even though you may not be familiar with social media or you may not have an account, the majority of your customers DO use social media, and they check it OFTEN!
- Find a responsible employee within your organization who is familiar with social media to manage the accounts for you

CS - 30

Municipal Manual – Section XV, page 354; Association Manual – Section XIV, page 375

Automated Messaging

- Broadcasts specific messages created by the water system to large numbers of customers
- Plan messages carefully to be clear and concise
- Can use voice, text, or email; customers opt-in
- Some automated messaging systems cannot verify that contact with customers has been made
- Notify customers of boil water notices, outages, construction, etc.

CS - 31

WATER QUALITY COMPLAINTS

The information for the following slides was provided by:
Greg Caraway, P.E.
Region 7 Engineer
Mississippi State Department of Health

CS - 32

Water Quality Complaints Video

33

Customer Expectations

- You have to listen and show you are concerned about the problem
- You need to demonstrate that you are knowledgeable and in control of the situation
- You have to thoroughly investigate the problem

CS – 34

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Dealing With the Customer

- Do not argue
- Be friendly and courteous
- Be honest
- Assure the customer that reporting the problem was the right thing to do
- Listen carefully and calmly, ask questions
- Use non-technical language as much as possible
- Keep records and follow up with the customer

CS – 35

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Complaints Over the Phone

- Initial contact almost always begins with a phone call
- Develop a standard form for gathering basic info helpful:
 - Name, address, phone number
 - Nature of problem
 - Where problem occurs (hot or cold)
 - How long
 - Neighbors have same problem
 - Responsibility for handling complaint

CS – 36

Municipal Manual – Section XV, page 370-372; Association Manual – Section XIV, page 383-385

Common Complaints

- Milky water
- Discolored water, colored water, particles, staining
- Hard water, scale, spots on glassware
- Sickness, skin irritation
- Taste and odors
- Worms and insects in water
- Aquarium/swimming pool problems
- Billing
- Pressure Meters

CS - 37

Milky Water

- Likely cause is air in the water
- Shutdown of water mains or low main pressure
 - air enters pipe as water exits
- Air Release Valve on well
- Hole in well casing
- Check valve on well
- Air compressor malfunction (Pressure tanks)

CS - 38

Discolored, Particles, Staining

- Causes
 - Treatment Plant – dirty water leaving plant vs. clean water turning dirty
 - Chlorine, KMnO_4 , Lime, Alum, phosphate
 - Distribution – leaks increase/reverse flow, dead ends
 - Running water stays clear
 - Customers plumbing – galvanized pipes, hot water heater

CS - 39

Discolored, Particles, Staining

- Blue Water
 - Tidy Bowl Man
 - Copper corrosion stain
- Red Water/ Dingy Water
 - Iron
 - Treatment plant (new problem)
 - Distribution (old build-up, breaks/dead ends)

CS - 40

Discolored, Particles, Staining

- Pink Water
 - Potassium Permanganate
 - Pinkish stain from algae/bacteria
 - Customer used a red cup to check water color; always use a white styrofoam cup
- Brown/Black Water
 - Manganese
 - Plant – failure to remove or KMnO_4 overfeed
 - Distribution (build-up, cast iron, dead ends)
 - Water heater anode

CS - 41

Discolored, Particles, Staining

- Sand
 - Recent repairs where pressure was lost
 - Well pumping sand
 - Filter media
- Flecks
 - Manganese
 - Rust (breaks/dead ends)
 - Rubber degrading in tank
- Tape
 - Customer's plumbing

CS - 42

Hard Water, Scaling

- Usually noticed only by new customers
- Hardness Scale:
 - 0 – 75 - Soft
 - 75 – 150 - Moderately Hard
 - 150 – 300 - Hard
 - Over 300 – Very Hard
- Boilers and water heaters

CS – 43

Sickness, Skin Irritations

- Consulting physician should contact State Epidemiologist
- There has been no record of illness caused by water borne disease from any public water system in Mississippi

CS – 44

Taste and Odor

- Water heater
 - Perfect incubator for iron/sulfur bacteria
 - Degrading anode (rods wear away instead of the damaging the lining of the heater)
- Hydrogen sulfide – present in well and is not completely oxidized by chlorine
- Chloramines – Chlorine combined with ammonia
- Galvanized pipes – zinc coating wears off
- Medicine taste from new garden hose

CS – 45

Worms, Insects

- Midge fly larva
- Birds (dead or alive) in elevated tanks
- Make sure that screen vents are installed on finished water tanks

CS - 46

Billing

- The number of water quality complaints increases after cut-offs
- Not the same as complaining about bill-handled by board
- Develop a file for on-going situations
- Ask for help from operator or other board members

CS - 47

Pressure

- 20 – 80 psi required
- Water system problems:
 - Distribution leaks
 - Line size or elevation
- When you accept a meter deposit you are agreeing to provide adequate pressure to that meter. Watch out for a cluster of meters, long service lines or too many meters on an already too small line.

CS - 48

Questions?



CS-53

Management & Finance

MGT - 1

Overview

- Financial Statements
- Financial Management
- Record Keeping
- Personnel Management

MGT - 2

Types of Financial Statements

- Balance Sheet
 - Shows the financial position of the system at a specific moment in time
- Income or Profit and Loss Statement
 - Shows the sources of income and uses of funds over a specified time period
 - A more detailed statement of the system's net income (revenues and expenses listed)

Municipal Manual – Section IX, page 190-191;
Association Manual – Section VIII, page 212-213

MGT - 3

Balance Sheet

- Assets
 - Current Assets
 - Long-Term Investments
 - Intangible Assets
- Liabilities
 - Current Liabilities
 - Long-Term Liabilities
- Equity
 - Capital
 - Retained Earnings



Municipal Manual – Section IX, page 190-191;
Association Manual – Section VIII, page 212-213 MGT – 4

Income Statement

- Net Income = Revenues – Expenses
 - Shows if the system is successful in **sustaining** operations
 - Revenues > expenses, then the system is profitable and can continue operations
 - Revenues < expenses, then the system is operating at a loss and must either increase revenues or decrease costs

Municipal Manual – Section IX, page 192;
Association Manual – Section VIII, page 214 MGT – 5

Income Statement

- Income (Revenues)  All money coming into the system for services, products, and fees
 - Water Bills
 - Hook-up Charges
 - Interest Income
 - Other Income
- Expenses
 - Salaries
 - Insurance
 - Office Supplies
 - Utilities
 - Repairs
 - Telephone
 - Other Expenses

Municipal Manual – Section IX,
page 192; Association Manual –
Section VIII, page 214

MGT – 6

Income Statement

- Income (Revenues)
 - Water Bills
 - Hook-up Charges
 - Interest Income
 - Other Income
- Expenses
 - Salaries
 - Insurance
 - Office Supplies/building
 - Utilities
 - Repairs
 - Telephone/other
 - Equipment

All costs to the system to provide its services and product, and system maintenance and operation

Municipal Manual – Section IX, page 192; Association Manual – Section VIII, page 214 MGT – 7

Financial Statement Analysis

- Balance Sheet
 - Cash asset balances should be compared to cash flow statement projections
 - Aged (overdue) accounts receivable should not exceed 10 percent of budgeted revenues
- Income Statement
 - Actual revenues should be compared to budgeted revenues
 - Actual expenses should be compared to budgeted expenses
 - Net income (profit or loss)

Municipal Manual – Section IX, page 192; Association Manual – Section VIII, page 214 MGT – 8

How do I determine if the water system is profitable?

- Compare revenues to expenses
- Operating Ratio = $\frac{\text{Operating Revenues}}{\text{Operating Expenses}}$
- This ratio should at least be 1.10
 - Revenues should be 10% greater than expenses
- If the ratio is 1.00, the system is breaking even
- If the ratio is less than 1.00, the system is operating at a loss

Municipal Manual – Section IX, page 195; Association Manual – Section VIII, page 217 MGT – 9

How do I determine if the system is able to repay its debt?

- Compare annual revenue available for debt service (revenue after non-debt expenses are paid) with the annual principal, interest and debt reserve expenses (debt service)

$$\text{Coverage Ratio} = \frac{\text{Operating Revenues} - \text{Non-Debt Expenses}}{\text{Debt Service (Interest, Principal, Debt Reserve)}}$$

- This ratio should be at least 1.25 or greater. This means that for every \$1.00 that is owed on the principal and interest, the system has \$1.25 to cover debt

Municipal Manual – Section IX, page 195;
Association Manual – Section VIII, page 217 MGT – 10

Ways to Improve Financial Position

- Increase revenue
 - We all too often look at rate increases as the only way to improve the system’s financial position. There are many tools that a system has at its disposal to increase revenues without changing rates.
 - Decreasing expenditures
 - Minimizing water loss/non-revenue water
 - Changing out meters
 - Keeping accurate records of accounts receivable
 - Collecting on bad debts
 - Analyzing fees and charges
 - Performing better maintenance

MGT – 11

Decreasing expenditures

- There are several ways in which expenses can be reduced that typically fall under the board’s or general manager’s purview
 - Perform energy audit
 - Discuss bulk discounts/customer appreciation with vendors
 - Maximize efficiency of employees on the clock
 - Perform more “in-house” work and repairs

Municipal Manual – Section IX, page 185-188;
Association Manual – Section VIII, page 207-210 MGT – 12

Water Loss/Non-Revenue Water

- Water loss/non-revenue water is calculated as the difference between:
 - The water produced (measured by a master meter or estimated by an hour meter and recent pumping test) and the amount of water sold (measured by customer billing records)
- Contributors to this include under-performing meters, leaks, unregulated flushing programs, unmeasured water used for fire protection, non-paying users (city buildings, etc.)

Municipal Manual – Section IX, page 186-187;
Association Manual – Section VIII, page 208-209

MGT – 13

Cost of Water Loss

- The Cost of Water Production can be looked at in two unique ways
 - Cost of water produced
 - Cost of water sold
 - The determining factor is the level of water loss (or non-revenue water) experienced
- The cost of non-revenue water (including loss) has both fixed and variable components

Municipal Manual – Section IX, page 185-188;
Association Manual – Section VIII, page 207-210

MGT – 14

Fixed Costs of Water Production

- Fixed Costs typically include:
 - Interest on debt (while not a cost, debt principal must also be calculated into the water sales rate)
 - Salaries and/or contractor payments (usually including mileage costs for sampling and meter reading)
 - Depreciation
 - Legal/Accounting fees
 - Maintenance/repair costs (can be fixed or variable costs)

Municipal Manual – Section IX, page 193;
Association Manual – Section VIII, page 215

MGT – 15

Variable Costs of Water Production

- Variable Costs typically include:
 - Maintenance/repair costs (can be fixed or variable costs)
 - Chemicals (chlorine, fluoride, etc.)
 - Electricity
 - Fuel
 - Wages

Municipal Manual – Section IX, page 193-194;
Association Manual – Section VIII, page 215-216 MGT – 16

Effect of Water Loss/Non-Revenue Water on Costs

Remember that revenue to the system comes only from the water sold, not the water produced

- If the cost of water produced is \$3.50 per 1,000 gallons
- Subtract the amount of water sold from the amount of water produced
 - If water loss/non-revenue water is 40%, then only 60% of water produced is actually sold to generate revenue
- Then the cost of water sold is actually $\$3.50 \div 0.60 = \5.83 per 1,000 gallons

MGT – 17

Meters

- Customer meter readings are the main source of a water system's revenue
- Without meters, customers can only be charged a flat rate
 - Flat rates do not accurately reflect the amount of water used
 - Flat rates generate fewer funds to sustain the system
 - May be more difficult to raise flat rates
- Older, underperforming meters contribute significantly to a system's water loss

Municipal Manual – Section IX;
Association Manual – Section VIII MGT – 18

Meters

- Record master meter readings
- Compare to water sales records
 - This is a good indicator of possible unidentified large leaks
- Repair or replace inoperative meters
 - Standard Operating Procedures should outline a meter change-out program to minimize an unplanned lump-sum cost

Municipal Manual – Section IX;
Association Manual – Section VIII

MGT – 19

Cost of Underperforming Meters

- The cost of an underperforming meter is calculated in the same manner as overall water loss
- If a meter registers 3,000 gallons, but is only 60 percent accurate, the customer actually used 5,000 gallons.
- If the block rate is \$3.50 per 1,000 gallons, then the customer paid $\$3.50 \times 3,000$ gallons = \$10.50, while using an additional 2,000 unmetered gallons which cost the system \$7.00

Municipal Manual – Section IX, page 185-188;
Association Manual – Section VIII, page 207-210

MGT – 20

Accounts Receivable

- Make sure that the whole board understands the status of Accounts Receivable (overdue customer bills) each month
- Understanding this requires excellent record keeping capabilities and active interest and participation by the board
- Don't let overdue accounts go too long (see next slide for Collection Policies)
- Just as important, note the amount of the bill; relatively large bills may indicate major leaks

Municipal Manual – Section IX, page 205;
Association Manual – Section VIII, page 227

MGT – 21

Collection Policies

- It doesn't matter what the rates are if customers don't pay the bills.
- Customers who do pay subsidize those who don't.
- Collection policies and disconnect policies should be uniform and fair.
- Pursue legal prosecution of those who damage locks, meters, other property, etc.

Municipal Manual – Section IX, page 187;
Association Manual – Section VIII, page 209

MGT – 22

Elements of a Uniform Collection or Disconnection Policy

- Late charges (typically 10 percent of bill)
- Collection fees
- Disconnect notices and deadlines
 - Stamp bills
 - Door hangers
- Reconnection fees – two components
 - Recover reconnection expenses
 - Punitive – amount should be reasonable enough to be paid, but high enough to discourage customers from avoiding bills again

Municipal Manual – Section IX, page 187, 194;
Association Manual – Section VIII, page 209, 216

MGT – 23

Exemptions to Collection and Disconnection Policies

- Exemptions to the collections and disconnection policies should be considered **only by the Board** on a case-by-case basis
- Requests for consideration of bill-forgiveness should be made in person, in writing, or both
- Avoid setting examples; these often have unforeseen and undesirable consequences

Municipal Manual – Section IX, page 187, 194;
Association Manual – Section VIII, page 209, 216

MGT – 24

Exemptions to Collection and Disconnection Policies

- Specific considerations may be discussed **by the Board** for:
 - Health problems for infants
 - Indigent/poverty
 - Weather (extreme heat or cold)
 - Catastrophic occurrences (large leaks)
- It is generally best not to adjust bills for routine leaks
- Flexible payment plans may be offered for exemptions or special cases
 - *Make note of specific reasons for adjusting a particular customer's bill in board meeting minutes*

Municipal Manual – Section IX, page 187, 194;
Association Manual – Section VIII, page 209, 216 MGT – 25

Bad Debt Collection

- Serious efforts to collect bad debts often involve attorneys' fees and court costs and must be handled meticulously
 - These fees can total more than the actual bill owed; use care.
- Recognize the ability of the account holder to pay any judgment in a reasonable time period
- Maintain complete records for bad debt holders for future connections to system for restitution, increased deposits, etc.

MGT – 26

Bad Debt Collection

- Senate Bill 3049 was passed in 2007 affecting municipalities, counties, and water associations
 - When a person is delinquent on the payment of an undisputed water bill from a water system within this state, moves into another area of this state and applies for water service
 - If the person's former water sewer system established that the person owes an undisputed bill, the new water system shall refuse service to the delinquent person until there is proof the bill has been paid

MGT – 27

Fees and Charges

- It is important to understand that fees are charges are imposed to compensate the system for services over and above the usual distribution of water
- Carefully analyze the cost of installing a tap and meter, disconnecting and reconnecting a customer, etc., to determine the appropriate fee structures
- Make sure to include labor costs, equipment costs, and materials costs in assessing a "correct" charge

Municipal Manual – Section IX, page 187, 194;
Association Manual – Section VIII, page 209, 216

MGT – 28

Repairs and Maintenance

- Developing routine preventative maintenance schedules to save significant costs to the system
- Maintenance schedules should be adopted as part of an effective asset management plan (to be discussed later)
- Routine repairs and proper maintenance is critical in reducing or eliminating costly repairs due to equipment neglect
- It is the duty of the board to see that maintenance is done; it's not necessarily the board's job to perform the maintenance

Municipal Manual – Section IX, page 193;
Association Manual – Section VIII, page 215

MGT – 29

Additional Financial Management Tools

- Implement Water Audit and Leak Detection programs
- Eliminate old and dead meters
- Eliminate unauthorized users (2 or more on the same meter); this is critical for rate structures with fixed minimums
- Establish **and enforce** uniform collection and cut-off policies
- Review fee structures to help the system recuperate costs outside of increasing rates

Municipal Manual – Section IX, page 186;
Association Manual – Section VIII, page 208

MGT – 30

Record Keeping

- Accounts payable records
 - Vendor invoice files
 - Check disbursement journal/claims dockets
 - Approved vendor listing
- Payroll records
 - Completed time sheets/cards
 - Detailed reports listing individual employees' monthly gross pay, deductions, and net pay
 - Detailed reports for tax forms for contract labor disbursements

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 30

Record Keeping

- Equipment preventive maintenance records, warranties, titles
- Water consumption, water loss, and water production records
- Accounts receivable records
 - Receipt books
 - Billing registers
 - Daily transaction reports
 - Late, delinquent, and bad debt reports
 - Monthly transaction reports
 - Customer service files

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 31

Record Keeping

- Insurance records
 - Employee insurance
 - Commercial insurance
 - Property and casualty
 - General liability
 - Inland marine
 - Fidelity or crime insurance
 - Workers compensation
 - Commercial auto
 - Directors and Officers liability

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 32

Record Keeping

- Tax records
 - Mississippi sales tax records
 - IRS 940 and 941 payment records
 - IRS 990 for 501(c)12 or 1120
 - Mississippi Employment Security Commission

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 33

Record Keeping

- Other financial records
 - Monthly financial reports including balance sheets, income statements, bank reconciliations, disbursement journals and general ledgers
 - Audit and compilation reports
 - Monthly or quarterly RD 442-2 reports
 - Budget and cash flow projections
- Long- and short-term debt
 - Loan agreements including interest rates, payment frequency, amount, due date, late penalties, reserve requirements and correspondence

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 34

Record Keeping

- A qualified clerk or bookkeeper can:
 - Pay bills and maintain the checkbook
 - Mail and collect water bills
 - Maintain expense and revenue records
- A professional accountant can provide many services:
 - Prepare monthly and annual financial statements
 - Prepare and submit required financial reports to state agencies, lenders, etc.
 - Provide financial audit services for the system

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 35

Record Keeping by Operator to Assist in Financial Management

- Operators must maintain:
 - Water system logbook including records of:
 - Maintenance procedures
 - System repairs
 - Records of sampling
 - Could contain routine tests (Cl₂, Fe, Ph, F) or these results can be recorded on a separate sheet
 - Additions of chemicals to treatment process
 - Water production/Water loss
 - Chemical usage
 - Maintenance records

Municipal Manual – Section IX, page 189;
Association Manual – Section VIII, page 211 MGT – 37

Personnel Management

- It is critical how you hire, train, and retain your employees
- Employees can be your most rewarding asset or most costly liability
- Hiring employees
 - Determine current and future labor requirements for **your** system
 - Develop detailed written job descriptions
 - Survey other systems for salaries
 - Advertise for job openings
 - Use same interview process for all applicants

MGT – 37

Personnel Management

- Hiring employees (continued)
 - Prepare written questions in advance for all board members to follow in the interview process
 - Select the best candidate for employment
 - Conduct a routine background check on the selected candidate
 - After the selected candidate satisfies the background check, extend an offer for employment

MGT – 38

Personnel Management

- Training employees
 - Ensure that only competent personnel provide on-the-job training to new employees
 - Provide for the cost of required training (Operator Certification, CEUs, etc.)
- Evaluating employees
 - Evaluate all new employees' job performance at end of probationary period (typically 90 days)
 - Conduct employee evaluations of job performance before end of fiscal year
 - Tie pay raises to job performance evaluations

MGT - 39

Personnel Management

- Disciplining employees
 - Specify detail disciplinary/termination procedures in the Employee Policy Handbook (have the board/municipal attorney review policy before implementation)
 - Document all disciplinary actions
 - Retain legal counsel when considering terminating an employee to ensure that proper procedures have been followed and that sufficient supporting documentation exists

MGT - 40

Personnel Management

- Retaining employees
 - Periodically conduct salary surveys of similar-size systems to ensure that wage scales are at least average
 - Consider offering competitive benefits to full-time employees
 - Sick leave/personal leave
 - Health insurance
 - Retirement benefits
 - Require all employees to meet with the board at least once each year to discuss concerns

MGT - 41

Personnel Management

- Salary increase
 - Offer competitive salaries to retain high-quality employees
 - There are two components of salary adjustments:
 - A cost of living adjustment allows the employees wages to maintain its purchasing power due to inflation.
 - An actually salary increase is over the cost of living adjustment.

MGT – 42

Personnel Management

- Personnel records
 - Resumes, applications, tax withholding information, performance reviews and other information relating to existing employees
 - Archived employee records for former employees
 - Files for prospective employees with completed resumes and applications
 - Fidelity bonds, performance bonds, certificates of insurance and contracts for contract employees
- Payroll records
 - Completed time sheets/cards
 - Detailed reports listing individual employees' monthly gross pay, deductions and net pay
 - Detailed reports for 1099 contract labor disbursements

MGT – 43

Questions?



MGT – 44

Rate Setting

RS - 1

- Overview
 - Gaining customer support
 - Rate structures
 - Budgetary requirements
 - Adjusting rates
 - Additional ways to generate revenue
- RS - 2

When is it necessary to begin looking at increasing water rates?

At the least, new rates should be implemented (or expenses cut) before system expenses grow to within 10 percent of revenues.

This means that the Operating Ratio should always be greater than 1.10

Municipal Manual – Section IX, page 195; Association Manual – Section VIII, page 217

RS - 3

How can you gain customer support or at least avoid a rebellion while raising rates?

- Implement small incremental increases every few years (or every year) rather than waiting until the system's financial situation is dire and a large increase is necessary
- Attempt to cut expenses, especially perceived waste, before increasing rates
- Review Aged Accounts Receivable to ensure that collection and cut-off policies are adequate and enforced
- Respond adequately to complaints and leaks to keep customers informed and satisfied

Municipal Manual – Section IX, page 185-188; Association Manual – Section VIII, page 207-210 RS – 4

Factors that necessitate rate increases

- Increases in debt service as a result of loans for capital improvements
- Declining water supply, increased population growth, and other physical capacity programs that require conservation
- Declining customer base or loss of high-consumption users

Municipal Manual – Section IX, page 185; Association Manual – Section VIII, page 207 RS – 5

When to Avoid Raising Rates

- There's never a "right" time to raise rates. However, avoiding the following times of the year will help ease the impact of the increase on your customers
 - Holidays
 - Back to school time
 - Income tax time
 - Re-election time
 - During high water consumption time, *unless* the increase is designed to encourage conservation

Municipal Manual – Section IX, page 189; Association Manual – Section VIII, page 211 RS – 6

Determining Current and Future Budgetary Requirements

- **Fixed Expenses** – the expenses incurred whether or not water is produced or sold
 - The minimum rate usually recovers fixed expenses
- **Variable Expenses** – the expenses that change depending on levels of production, consumption and operations and maintenance
 - The flow rate usually recovers variable expenses

Municipal Manual – Section IX, page 193; Association Manual – Section VIII, page 215 RS – 7

Rate Structure Components

- **Minimum water charge**
 - The fixed charge that includes a water usage allowance for a billing cycle
 - Typically used to recover fixed expenses of the water system (debt service and salaries)
- **Minimum water usage**
 - The maximum amount of water consumed with no additional charges other than the minimum charge

Municipal Manual – Section IX, page 218; Association Manual – Section VIII, page 240 RS – 8

Rate Structure Components

- **Flow Rate**
 - The variable charge for water consumed in addition to that allowed by the minimum charge
 - Typically used to recover variable expenses of the water system (most operational expenses)
- **Flow Rate Measurement**
 - Unit of measurement for flow rate calculation (i.e., thousands of gallons, cubic feet)
 - Typical flow rate measurement in Mississippi is thousands of gallons

Municipal Manual – Section IX, page 219; Association Manual – Section VIII, page 241 RS – 9

Why should we consider adjusting the flow rate? As long as the minimum rate is adjusted every few years, won't this be all right?

RS - 10

Why should we consider adjusting the flow rate? As long as the minimum rate is adjusted every few years, won't this be all right?

NO!

RS - 11

Remember that the minimum rate should be designed to recoup fixed expenses.

Fixed expenses rarely increase substantially unless you encumber more debt or have a large system expansion.

Most systems should view the fixed rate part of their structure as a debt service and depreciation recoupment tool.

Municipal Manual – Section IX, page 193; Association Manual – Section VIII, page 215 RS - 12

Likewise, remember that the flow rate should be designed to recoup variable expenses.

Variable expenses are more subject to inflation, so the flow rate should be adjusted periodically (usually 1-2 years).

Municipal Manual – Section IX, page 193; Association Manual – Section VIII, page 215 RS – 13

Rate Review Policy

- Required by the MSDH as part of the system's annual inspection or sanitary survey
- Makes the board members conscientiously review the water rates annually to make sure there is adequate revenue to support the operations of the water system
- Encourages board members to acknowledge any potential financial struggles of the system before the operating ratio drops significantly

Municipal Manual – Section V, page 57; Association Manual – Section V, page 93 RS – 14

Types of Rate Structures

- Flat Rate
- Uniform Block Rate, With Minimum
- Increasing (Ascending) Block Rate
- Decreasing (Descending) Block Rate
- Varying Types of Block Rates without a Minimum Charge

Municipal Manual – Section IX, page 219; Association Manual – Section VIII, page 241 RS – 15

How do I determine if the system has the “right” rate structure?

- The Operating & Debt Coverage Ratios should be sufficient to allow the system to operate without financial hardship under “normal” circumstances.
- The rate structure should be designed in such a way as to allow the system to achieve long term goals.
- The rate structures that follow will look at an individual system and its consumption to see if one particular rate structure produces the adequate operating ratio.

Municipal Manual – Section IX, page 195; Association Manual – Section VIII, page 217 RS – 16

How do I determine if the system has the “right” rate structure?

- Request a rate study to be performed by a technical assistance agency
 - MSU – Extension Service
 - MS Rural Water Association
 - Communities Unlimited
- Include average usage in rate study to determine factors for long-term stability for the system

Municipal Manual – Section IX, page 195; Association Manual – Section VIII, page 217 RS – 17

Rate Analysis Examples

Subsequent rate analysis examples are developed from one (1) system scenario. Assumptions for this system are:

- The system has 830 connections.
- Each connection consumes 7,265 gallons per month.
- Fixed expenses are \$79,000.
- Variable expenses are \$198,000.

RS – 18

Flat Rate

- Everyone pays the same rate regardless of how much water is consumed
- Example: All customers pay \$20.00 per month, regardless of consumption

RS - 19
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Flat Rate

- **Advantages**
 - Because actual customer usage is not calculated into the monthly water bills, meter reading is not necessary
- **Disadvantages**
 - Income does not change with water usage
 - No one pays a fair share. Virtually everyone pays too much or too little. Extremely unfair to low-quantity users (typically elderly households)
 - Discourages conservation and taxes the physical capacity of the system by encouraging waste

RS - 20
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Flat Rate Structure

Example Simplified Flat Rate Analysis

Total Customers: 830			
Minimum Rate: \$20.00			
Flow Rate / 1,000 gal: \$0.00			
Customers Paying Minimum: 830			
Total Gallons Sold Annually: 69,720,000			
Fixed Budget Expenses	\$ 79,000	\$199,200	Revenues Generated by Minimum
Variable Budget Expenses	\$ 198,000	\$0	Revenues Generated by Flow Rate
Total Budget	\$ 277,000	\$199,200	Total Revenues Generated
Operating Ratio 0.72			
Cost per 1,000 gals for minimum customers: N/A / 1,000 gallons			
Cost per K gallons for other customers: N/A / 1,000 gallons			

RS - 21
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Explanation of the Flat Rate

- **Income vs. Expenses:** *Poor* because the water system will generate the same amount of revenue regardless of the water consumed.
- **Conservation Effect:** *Poor* because customers are not charged for excessive water use or leaks.
- **Customer Fairness:** *Poor* because every customer may not use the same amount of water yet they pay the same amount. A customer either pays too much or too little.

Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244 RS – 22

Uniform Block, With Minimum

- The minimum charge allows the system to generate sufficient revenue to cover fixed expenses, regardless of water consumption.
- The same rate per thousand gallons is charged regardless of how much water is consumed.

Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244 RS – 23

Uniform Block, With Minimum

- After minimum usage, a constant flow rate is charged

Amount (gallons)	Price
Up to 2,000 gallons	\$20.00
Over 2,000 gallons	\$2.00 per 1,000 gallons

- Note: All block rate structures can have proportional billing to bill customers more accurately (\$.20 per 100 gals or \$.02 per 10 gals)

Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244 RS – 24

Uniform Block Rate, With Minimum

- **Advantages**

- Fair to all customers. Everyone pays the same *rate* for water they consume
- Easy to administer

- **Disadvantages**

- Low end users pay a disproportionate amount of revenue to the system compared to water consumed
- No additional incentive for high-end users to conserve and place less strain on the system

RS – 25
Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244

Uniform Block Rate, With Minimum

Illustration 1 Example Simplified Uniform Rate Analysis

Total Customers: 830			
Minimum Rate: \$20.00			
Flow Rate / 1,000 gal: \$2.00			
Customers Paying Minimum: 116			
Total Gallons Sold Annually: 69,720,000			
Fixed Budget Expenses	\$ 79,000	\$199,200	Revenues Generated by Minimum
Variable Budget Expenses	\$ 198,000	\$105,168	Revenues Generated by Flow Rate
Total Budget	\$ 277,000	\$304,368	Total Revenues Generated
Operating Ratio 1.10			
Cost per 1,000 gals for minimum customers: \$10.00 / 1,000 gallons			
Cost per K gallons for other customers: \$2.94 / 1,000 gallons			

RS – 26
Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244

Explanation of the Uniform Block Rate, With Minimum

- **Income vs. Expenses:** Excellent because the minimum should cover all fixed expenses and the flow rate is consistent.
- **Conservation Effect:** Good because low end users pay the same fixed minimum regardless if they do not use the water allotted for the minimum charge.
- **Customer Fairness:** Good because the low end customers will pay a disproportionate amount in comparison to their consumption.

RS – 27
Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244

Increasing (Ascending) Block Rate, With Minimum

- After minimum usage, a flow rate increases as customers use more water

Amount (gallons)	Price
Up to 2,000 gallons	\$20.00
Next 1,000 gallons	\$2.00
Next 1,000 gallons	\$2.50
Next 1,000 gallons	\$3.00

RS - 28
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Increasing (Ascending) Block Rate, With Minimum

- **Advantages**
 - Encourages conservation. Especially useful if system is taxed to physical limits
- **Disadvantages**
 - Large-quantity customers pay a higher rate for water than low-quantity customers
 - Discourages economic growth - not business or industry friendly

RS - 29
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Increasing (Ascending) Block Rate, With Minimum

Example Simplified Increasing Rate Analysis

Total Customers: 830			
Minimum Rate: \$20.00			
Flow Rate / 1st 1,000 gal: \$2.00			
Flow Rate / Remaining Gallons: \$2.50			
Customers Paying Minimum: 116			
Customers Paying Minimum plus 1st 1000: 100			
Total Gallons Sold Annually: 69,720,000			
Fixed Budget Expenses	\$79,000	\$199,200	Revenues Generated by Minimum
Variable Budget Expenses	\$198,000	\$2,400	Revenues Generated by 1st block Flow Rate
		\$164,340	Revenues Generated by Remaining Flow Rate
Total Budget	\$277,000	\$365,940	Total Revenues Generated
Operating Ratio	1.32		

RS - 30
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Explanation of the Increasing Block Rate, With Minimum

- **Income vs. Expenses:** *Excellent* because the water system should generate enough revenue to cover fixed and variable expenses.
- **Conservation Effect:** *Excellent* because customers are charged for excessive water use which will promote conservation.
- **Customer Fairness:** *Fair* because high end users will pay more per thousand gallons for the excessive water they use.

RS - 31
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Decreasing (Descending) Block Rate, With Minimum

- After minimum usage, the flow rate declines as customers use more water

Amount (gallons)	Price
Up to 2,000 gallons	\$20.00
Next 1,000 gallons	\$2.00
Next 1,000 gallons	\$1.50
Next 1,000 gallons	\$1.00

RS - 32
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Decreasing (Descending) Block Rate, With Minimum

- **Advantages**
 - Attractive to industry and large agriculture users. May promote economic growth.
- **Disadvantages**
 - Unfair to most customers because large users are subsidized with lower rates at the expense of low-quantity users
 - Discourages conservation. Customers are rewarded with lower rates for using larger quantities of water

RS - 33
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Block Rate, No Minimum

- Example: All customers pay \$4.50 per thousand gallons of consumption.
- Typically used with systems that have little to no debt or when debt is treated as a variable cost.
- Revenue declines substantially in low usage months.
- Should come with a mechanism to implement minor adjustments in times of low revenue.

RS - 37
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Block Rate, No Minimum

- There is no minimum usage, a constant flow rate is charged

Amount (gallons)	Price
Up to 1,000 gallons	\$4.50
Over 1,000 gallons	\$.45 per 100 gallons

- Note: All block rate structures can have proportional billing. (\$.45 per 100 gals or \$.045 per 10 gals)

RS - 38
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Block Rate, No Minimum

- **Advantages**
 - Encourages conservation
 - Easy to administer
 - Removes the need to police multiple connections to a single meter
- **Disadvantages**
 - Could discourage economic growth - not business or industry friendly
 - Usually used only for residential rates

RS - 39
Municipal Manual - Section IX, page 218-222; Association Manual - Section VIII, page 240-244

Comparison of Rate Structures on Revenue and Operating Capacity

	Fixed Revenue	Variable Revenue	Total Costs*	Total Revenue	Operating Ratio
1 Flat Rate	\$199,200	\$0	\$277,000	\$199,200	0.72
2 Block Rate-Decreasing	\$199,200	\$101,004	\$277,000	\$300,204	1.08
3 Block Rate-Increasing	\$199,200	\$166,740	\$277,000	\$365,940	1.32
4 Uniform Rate-Fixed Minimum	\$199,200	\$105,168	\$277,000	\$304,368	1.10
5 Uniform Rate-No Minimum	0	\$313,740	\$277,000	\$313,740	1.13

* Fixed Costs of \$79,000 and Variable Costs of \$198,000 are used in all scenarios. They are not listed but are explained in the Total Costs.

Municipal Manual – Section IX, page 218-222; Association Manual – Section VIII, page 240-244

RS – 43

Obtain Approval for Rate Adjustments

- Always obtain approval of debt holders including USDA-Rural Utility Service or GMAC that have specific clauses regarding rate adjustments in loan agreements
- Schedule public meetings to explain the need for a rate adjustment, gauge general public support and secure customer support

RS – 44

Do These Rates Need Adjusting?

A decision can't be made without looking at the system's costs

Illustration 1

Example Simplified Rate Analysis

Total Customers: 830	
Minimum Rate: \$12.00	
Flow Rate / 1,000 gal: \$2.00	
Customers Paying Minimum: 116	
Total Gallons Sold Annually: 69,720,000	
\$119,520	Revenues Generated by Minimum
\$105,168	Revenues Generated by Flow Rate
\$224,688	Total Revenues Generated
Operating Ratio	
Cost per 1,000 gals for minimum customers: \$6.00 / 1,000 gallons	
Cost per K gallons for other customers: \$2.21 / 1,000 gallons	

RS – 45

What has happened in this scenario?

- **Positives**

- The system is generating enough revenue to cover fixed and variable expenses.

- **Negatives**

- Low end users are carrying a larger financial burden to cover the systems total expenses.
- The flow rate is not covering the variable expenses of the system.
- The operating ratio is below 1.10.

RS - 49

Adjusting Minimum and Flow Rates Illustration 3 Lower Minimum by \$1.00 Raise Flow Rate by \$1.25

Total Customers: 830			
Minimum Rate: \$11.00			
Flow Rate / 1,000 gal: \$3.25			
Customers Paying Minimum: 116			
Total Gallons Sold Annually: 69,720,000			
Fixed Budget Expenses	\$ 79,000	\$109,560	Revenues Generated by Minimum
Variable Budget Expenses	\$ 198,000	\$170,898	Revenues Generated by Flow Rate
Total Budget	\$ 277,000	\$280,458	Total Revenues Generated
Operating Ratio 1.01			
Cost per 1,000 gal for minimum customers: \$5.50 / 1,000 gallons			
Cost per 1,000 gal for other customers: \$2.82 / 1,000 gallons			

RS - 50

What has happened in this scenario?

- **Positives**

- Minimum users are not being burdened as much since the minimum rate has been reduced.
- High end users are paying more of their share of the water used.

- **Negatives**

- The flow rate is not covering the variable expenses of the system.
- The operating ratio is less than 1.10.

RS - 51

Questions?



RS - 52



Long-Range Financial Planning

PLAN -1

Definition of Long Range Planning

- Identifying goals for the future and identifying the necessary steps to take in order to achieve them.
- Bad Practices
 - Develop a “wish list” in 20 minutes at one board meeting
 - Not updating/reviewing the LRP annually
- Best Practices
 - Involve the operator in the development of the LRP
 - Follow a set procedure for review and adding items
 - Revisit/review LRP regularly
 - Take into account multiple foreseeable contributing factors

PLAN -2

Municipal Manual – Section IX; Association Manual – Section VIII

Process for Long Range Planning

- Set aside a significant amount of **time** for the board and operator to work together
- Use maps/plans to develop a knowledge of the system, including strengths and weaknesses
 - The Security Vulnerability Assessment can provide insight into planning for an emergency
- Identify **goals** for each area of system weakness (what needs to be done)
- Develop **strategies** to accomplish goals (how it needs to be done)
- Develop a **feasible funding plan**

PLAN -3

Municipal Manual – Section IX; Association Manual – Section VIII

Community demographics

- The Board should look at the long term requirements of the system with respect to:
 - The individuals, businesses, and industries who are current customers
 - The individuals, businesses, and industries who are likely to become customers during the planning horizon
 - Possible expansion of schools due to increased population in the area
 - Nearby incoming industries that can increase population in surrounding communities

PLAN -4

Municipal Manual – Section IX; Association Manual – Section VIII

Water demand

- The residential need placed on the water system by current customers and anticipated growth.
 - Look at changes in: house size, lot size, school district changes
- The commercial and industrial need placed on the system due to current customer needs, changes in those needs and anticipated businesses/industries.
 - Look at changes in: employment, water needs of business production, and residential consumption

PLAN -5

Municipal Manual – Section IX; Association Manual – Section VIII

Water supply

- Will the current water supply (ground water or surface water) be adequate to serve not only the current customer base, but also likely increased demand in the future?
- What expansions or improvements to the system will be necessary to meet increased demands?

PLAN -6

Municipal Manual – Section IX; Association Manual – Section VIII

Pro forma financial statements

- Provide a future budget of the system's finances
- Basic statements that should be developed are:
 - Cash Flow Statement
 - Income Statement
- Should show **monthly** impacts of revenues/ expenses; annual impacts are inadequate for cash-strapped systems
- A comprehensive rate analysis should be performed to accurately gauge the system's financial standing throughout the year

PLAN - 7

Municipal Manual - Section IX; Association Manual - Section VIII

Factors that affect pro forma financial statements

- Inflation
- Wage and salary adjustments
- Changes in major expense categories (such as having a storage tank painted)
- Changes in chemical prices
- Changes in interest rates (both borrowing and savings rates)
- Changes in debt reserve requirements as loans age or are paid back

PLAN - 8

Municipal Manual - Section IX; Association Manual - Section VIII

Asset Management

A planned approach to maintaining and utilizing current assets and preparing for future asset needs and replacement.

PLAN - 9

Municipal Manual - Section IX, pages 212-214; Association Manual - Section VIII, pages 234-236

Asset Management

- Benefits:
 - Prolongs the life of the asset
 - Reduces asset costs
 - Increases ability to meet customer demands
 - Provides a basis for rate setting
 - Creates a budgeting base
 - Increases the ability to meet service expectations and regulatory requirements
 - Improves emergency response capability
 - Identifies methods to improve asset security

PLAN - 10

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Asset Management

- Elements
 - Planning and Targets
 - Practice and Process
 - Information Systems
 - Data and Records
 - People and Organization

Cite: http://icma.org/en/Article/10994/Introduction_Part_2_The_Five_Elements_of_Asset_Management

PLAN - 11

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Asset Management

- Developing an Asset Management Plan:
 - Create a current asset inventory list that includes the physical condition of the assets
 - Identify expected/remaining sustainable service life
 - Prioritize assets that are critical to sustained performance (chlorinators, mains, wells)
 - Develop a method to objectively evaluate options
 - Purchase price
 - Maintenance costs
 - Expected life
 - Salvage value (if any)
 - Develop long-term funding strategies

PLAN - 12

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Asset Management Tools

- Risk of incidence
- Remaining life, residual value
- Repair, rehab, replacement schedule
- Procedures
- GIS solutions
- Check Up Program for Small Systems (CUPSS) on EPA website

PLAN - 13

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Asset Management Example

- Develop asset inventory that includes:
 - Age of the asset
 - Expected serviceable and remaining life
 - Condition (rank from 1-5; 1 is very poor condition and 5 is excellent condition)
 - Expected life multiplied by condition equals prioritization score

Asset	Remaining Life	Condition Score	Prioritization Score
Elevated storage tank	20	X 5 <small>(excellent)</small>	= 100
Chlorinator heads	3	X 2	= 6
Line segment 1	25	X 4	= 100
Line segment 2	4	X 1 <small>(very poor)</small>	= 4

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

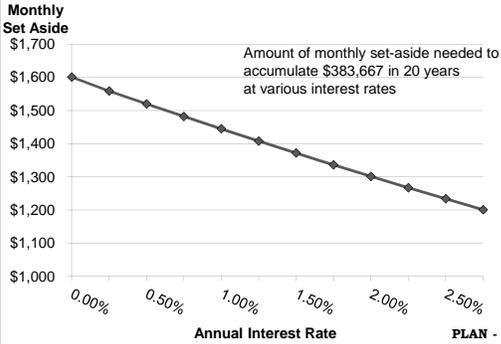
Asset Management Example

- Develop management plan for storage tank
 - Current Cost: \$600,000
 - Average Annual Cost increase: 3 percent
 - Expected life: 20 years
 - Future estimated cost: \$1,083,667
- 20 Year Financing Plans
 - Borrow \$700,000
 - Accumulate \$383,667 in system funds
 - Using a non-interest earning account, set aside \$1,600 per month (see next slide)
 - At 2 percent **savings** rate, set aside \$1,300 each month

PLAN - 15

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Interest Rate Example



Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Replacement Fund

- All mechanical equipment begins to wear out as soon as it is installed
- Items to consider include:
 - Pumps
 - Motors
 - Chlorination equipment
 - Wells (screens, casings, etc.)
 - Electrical controls
 - Vehicles
 - Earth equipment
 - Lines
 - Meters
 - Hydrants

PLAN - 17

Municipal Manual – Section IX, pages 212-214; Association Manual – Section VIII, pages 234-236

Capital Improvement Planning

- The following information should be used for planning for system capital improvements
 - The MSDH Sanitary Surveys (comprehensive inspection reports)
 - Monthly operator reports and other maintenance records
 - Documented customer complaints related to pressure or other service quality problems
 - Customer requests for line extensions and new connections (by geographic area)

PLAN - 18

Municipal Manual – Section IX, pg. 205; Association Manual – Section VIII, pg. 227

Annual Budgeting Needs

- Determine debt service reserve requirements
- Determine necessary financial reserve levels
 - Equipment replacement, emergency expenses
- Use previous years' expense statements as well as anticipated inflation to estimate future expenses
- Use previous years' income statements as well as anticipated growth to estimate future revenues
 - Look at all possible savings interest rate scenarios to generate the most money for the system
- Make adjustments to revenue through rate adjustments to cover estimated expenses

PLAN - 19

Municipal Manual – Section IX, page 200-211; Association Manual – Section VIII, page 222-233

Restructuring considerations

- Restructuring should take place if the water system is able to determine that the system could benefit by adjusting individuals and assets in a manner that will streamline the management, treatment, and distribution process.

PLAN - 20

Consolidation

- **Consolidation** can be defined as “one community water system being absorbed into, combined with, or served by other utilities to gain the resources they lack otherwise.”

PLAN - 21

Consolidation

- **Types:**

- **Informal Cooperation:** assistance but without contractual obligations
- **Contractual Assistance:** Contract for services but under system's control
- **Joint Powers Agencies:** New entity that serves all systems that form it
- **Ownership Transfer:** Takeover by an existing system to create a new system

PLAN - 22

Consolidation

- **Considerations:**

- Operating and debt coverage ratios
- Condition of infrastructure
- Ability of system to pay for needed improvements
- Customer base
- Reasonable price and terms
- Impact on customers
- Additional investment needed
- Alternatives
- Public sentiment
- Short- and long-term economics

PLAN - 23

Consolidation

- **Pros:**

- ❖ Can lower customer costs and water rates
- ❖ Greater access to capital
- ❖ Greater access to grant funding
- ❖ Duplicated services can be eliminated saving money and increasing efficiency
- ❖ Increased reliability of water source
- ❖ More skilled employees
- ❖ Can lower cost of complying with regulations

- **Cons:**

- ❖ Communities may lose autonomy and independence
- ❖ Debt acquisition
- ❖ May cause loss of jobs
- ❖ Customer confusion
- ❖ Political conflicts
- ❖ Cost and benefit inequities
- ❖ Physical connection limitations
- ❖ Conflict of management goals

PLAN - 24

Selecting a Professional Civil Engineer for Capital Planning

- Develop request for qualifications to several civil engineering firms with experience in **water system construction**
 - From the responses, determine the firm(s) that are deemed qualified for your capital project
- Develop request for qualifications for specific proposals and submit to qualified firms
 - Select the engineer that provides the best proposal for your project
- Execute an engineering agreement complete with specifications of the deliverables

PLAN - 25

Municipal Manual – Section IX; Association Manual – Section VIII

Financing Alternatives Grants vs. Loans

- **Fact** – Most systems would prefer to receive financial assistance through a 100% grant
- **Reality** – Even though grant money for water system capital improvement projects is available, competition is very stiff. Few systems now receive 100% grants unless they are seeking to fund very small projects (e.g., projects less than \$450,000)

PLAN - 26

Municipal Manual – Section IX, page 225; Association Manual – Section VIII, page 247

Grant Selection Criteria

- All grant programs prioritize applicants pursuant to at least some of the following criteria:
 - Low income areas
 - Current debt service requirements
 - Critical needs including threats to public health or economic stability
 - Extension of service to unserved households
 - Job creation/retention
 - Designated federal or state target areas
 - Level of matching funds committed
 - Number of years since last project/grant award

PLAN - 27

Municipal Manual – Section IX, page 225; Association Manual – Section VIII, page 247

Grant Sources

- USDA-Rural Utility Service
 - Water/Wastewater Loan and Grant Program
- Mississippi Development Authority
 - Community Development Block Grant
- Appalachian Regional Commission
 - Public Facilities Grant Program
- U.S. Department of Commerce
 - Economic Development Administration Grant Program

PLAN - 28

Municipal Manual – Section IX, page 225; Association Manual – Section VIII, page 247

Loan Sources

- USDA-RUS – Water/Wastewater Loan and Grant Program
- MDA – Capital Improvements Revolving Loan Program
- Community Resource Group – Community Loan Fund
- Drinking Water State Revolving Fund Program (MSDH)
 - Emergency Program (Funding Approval within 1 week)
 - Regular State Revolving Fund Program

PLAN - 29

Municipal Manual – Section IX, page 225; Association Manual – Section VIII, page 247

Mississippi Planning & Development Districts

Planning & Development District	Director Name	Counties
North Delta	James W. Curcio 662.561.4100 jcurcio@ndpdd.com	Coahoma, DeSoto, Panola, Quitman, Tallahatchie, Tate, Tunica
Northeast MS	Sharon Gardner 662.728.6248 info@nempdd.com	Marshall, Benton, Tippah, Alcorn, Prentiss, Tishomingo
South Delta	William B. Haney 662.378.3831	Bolivar, Sharkey, Humphreys, Sunflower, Issaquena, Washington

PLAN - 30

Mississippi Planning & Development Districts

Planning & Development District	Director Name	Counties
Central Mississippi	F. Clarke Holmes 601.981.1511 cholmes@cmpdd.org	Copiah, Hinds, Madison, Rankin, Simpson, Warren, Yazoo
East Central MS	Bill Richardson 601.683.2007 mail@ecpdd.org	Clarke, Jasper, Kemper, Lauderdale, Leake, Neshoba, Newton, Scott, Smith
Golden Triangle	Rupert L. "Rudy" Johnson 662.324.7860 rjohnson@gtpdd.com	Choctaw, Clay, Lowndes, Noxubee, Oktibbeha, Webster, Winston
North Central MS	Stephen B. Russell 662.283.2675 srussell@ncpdd.org	Holmes, Leflore, Carroll, Attala, Montgomery, Grenada, Yalobusha

PLAN - 31

Mississippi Planning & Development Districts

Planning & Development District	Director Name	Counties
Three Rivers	Vernon R. "Randy" Kelley 662.489.2415 vrk@trpdd.com	Itawamba, Monroe, Lee, Union, Pontotoc, Chickasaw, Calhoun, Lafayette
Southwest MS	Wirt Peterson 601.446.6044	Adams, Amite, Claiborne, Franklin, Jefferson, Lawrence, Lincoln, Pike, Walthall, Wilkinson
Southern MS	Leonard Bentz 228.868.2311 lbentz@smpdd.com	Covington, Forrest, George, Greene, Hancock, Harrison, Jackson, Jefferson Davis, Jones, Lamar, Marion, Pearl River, Perry, Stone, Wayne

PLAN - 32

Financing Follow-up

- After financial assistance is leveraged and project is begun, your capital improvement planning does not end!
- You should regularly review and modify your existing long-term capital improvement plan
- Remember:
 - Securing funding takes time
 - Engineering (plans and specs) takes time
 - Regulatory approval takes time
 - Bids and construction takes time

Resources

- Watereum.org
- http://www.watereum.org/a6_inst.php
- Epa.gov STEP guide series
- <http://www.nmenv.state.nm.us/dwb/assistance/documents/AssetManagementGuide.pdf>
- Environmental Finance Centers

PLAN -34

Questions?



PLAN -35



Emergency Preparedness



EP-1

Emergency Preparedness

- Each county has a full or part-time emergency management program appointed by local government
- MEMA has 9 districts throughout the state with an area coordinator assigned to each district as a liaison between the county emergency operations centers and MEMA

EP-2

Emergency Preparedness

- Know your county emergency management coordinator!
- Visit <http://www.msema.org/local-ema/> to find your county coordinator and contact information

EP-3

Emergency Preparedness

- Designate ONE media spokesperson for the organization
 - Well-spoken
 - Respected
 - Knowledgeable
- You do not want conflicting messages coming from different system employees

EP-4

Emergency Preparedness

- Capacity Assessment questions related to emergency preparedness
 - T5(1) – Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.)
 - T5(2) – Does the water system have a usable backup source of water?
 - M2 – Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies available for review during the survey? (Security Vulnerability Assessment and Emergency Response Plan complete and updated annually)

EP-5

Emergency Preparedness

- All Public Water Systems must conduct a Vulnerability Assessment
 - Municipal: Section XIII; Association: Section XI
- All Public Water Systems must prepare an Emergency Response Plan based on vulnerabilities
 - Municipal: Section XII; Association: Section XII

EP-6

Emergency Preparedness

- VAs and ERPs are part of MSDH Capacity Assessment
- Site security is critical to prevent contamination of water supply and protect critical assets
- All public water systems hoping to become eligible for Rural Development funding must complete a Vulnerability Assessment

Municipal Manual – Sections XII & XIII; Association Manual – Section XI & XII EP-7

Vulnerability Assessments

- A tool to identify the potential threats to the water system
- Helps identify the weaknesses in preparedness and security
- Consists of:
 - List of critical assets
 - Questions to identify weak points
 - Prioritization of needed actions
 - Emergency contact list

Municipal Manual – Section XIII, page 287; Association Manual – Section XI, page 293 EP-8

Vulnerability Assessments

- Not just a list to develop and put on a shelf
- Should be part of the system's short and long range plans for improvements
- Identified vulnerabilities should be addressed in a timely manner – many can be classified as “significant deficiencies”

Municipal Manual – Section XIII, page 287; Association Manual – Section XI, page 293 EP-9

Emergency Response Plans

- Assign emergency duties to each employee
- Cover procedures for a variety of emergencies/disasters
- Emergency notifications
 - Customers, MSDH, MEMA, local EMAs, etc.
 - Use of media
 - Boil Water Notices, conservation, other info
- Employee safety and ***training***

EP-10

Municipal Manual – Section XII, page 271; Association Manual – Section XII, page 335

Emergency Response Plan

Should address 4 phases of preparedness

- Mitigation (prevention)
 - Actions prior to emergency/disaster to prevent or lessen effects
- Preparedness
 - Actions prior to emergency/disaster to be prepared to respond effectively

EP-11

Municipal Manual – Section XII, page 271; Association Manual – Section XII, page 335

Emergency Response Plan

Should address 4 phases of preparedness

- Response
 - Actions during emergency/disaster to restore/continue critical operations
- Recovery
 - Actions after emergency/disaster to restore normal operations

EP-12

Municipal Manual – Section XII, page 271; Association Manual – Section XII, page 335

Recommended Site Security

- All water system assets fenced with minimum 6 foot fence plus barbed or razor wire top
- All gates, doors, windows, and hatches locked and secure
- Remove ladders from storage tanks
- Light and motion sensor lighting
- Alarm systems

EP-13

Recommended Site Security (continued)

- Local law enforcement patrols
- Access security
- Signage
- Neighborhood Watch program
- Security and accountability for anyone who has keys to facility

EP-14

National Incident Command System (NIMS)

- Water system employees are considered first responders and should be NIMS certified
- NIMS training is intended for all personnel who are directly involved in emergency management and response
 - EMS
 - Hospitals
 - Public health
 - Fire service
 - Public works/utilities
 - Support personnel
 - Law enforcement

EP-15

National Incident Command System (NIMS)

- All government agencies (local, state, tribal, federal) are required by HSPD-5 to be NIMS compliant
- Command and management
 - Incident Command System (ICS)
 - Training and certification
- Resource management
- Public information system
- Required for DHS Emergency Grant eligibility

EP-16

Questions?



EP-17

Board Management Training for Mississippi Public Water Systems

Thanks for your Participation!



COMMUNITIESUnlimited

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 - Fire service
 - Public works/utilities
 - Support personnel
 - Law enforcement

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- Required for DHS Emergency Grant eligibility

EP-16

Questions?



EP-17

Board Management Training for Mississippi Public Water Systems

Thanks for your Participation!



COMMUNITIESUnlimited

Section I: Introduction

An Introductory Training Program for Board Members of Public Water Systems in Mississippi ■

An adequate, safe water supply is essential to the very lives of our people. Water is a commodity that is critical to the human and economic development of our communities. Governing bodies of public water systems in Mississippi find it difficult to meet the demands brought on them by increased legal mandates and regulations that require more technical expertise and increase the costs of doing business.

Not only are there potential legal problems concerning the quality of water supplies, but there also are potential legal problems with the way boards conduct business. Consumers have increased fears about the presence of harmful chemicals and bacteria in their water supplies, and lawsuits by disgruntled users are becoming more prevalent.

Boards of public water systems face the problems of retaining trained technical personnel who are needed to maintain the systems, keep users satisfied and informed, conduct business in the proper legal manner, and make long-range plans that will keep the system updated. Many of these people perform the tasks while receiving little or no compensation.

The Mississippi Legislature passed legislation requiring board member training because of growing concerns about maintaining safe water supplies and the increasing technical and legal responsibilities assumed by the board members of public water systems. This legislation was in addition to laws pertaining to operator certification and drinking water analysis, which also affect board operations. In 1997, the legislature enacted the following legislation on training for governing bodies of small public water systems. In 2007, House Bill 1227 amended this legislation by raising the population limit from 2,500 to 10,000:

“Section 1. The following will be codified as Section 41-26-101, Mississippi Code of 1972:

1. Each member elected or reelected after June 30, 1998, to serve on a governing board of any community public water system, except systems operated by municipalities with a population greater than ten thousand (10,000), shall attend a minimum of eight (8) hours of management training within (2) years following the election of that board member. If a board member has undergone training and is reelected to the board, that

board member shall not be required to attend training as provided by this subsection.

2. The management training shall be organized by the State Department of Health, in cooperation with the Mississippi Rural Water Association and other organizations. The management training shall include information on water system management and financing, rate setting and structures, operations and maintenance, applicable laws and regulations, ethics, the duties and responsibilities of a board member, and other information deemed necessary by the department after consultation with the association and other organizations. The department shall develop and provide all training material. The department may charge a fee not to exceed seventy-five dollars (\$75.00) per member to defray the actual costs of providing the materials and training. These expenses shall be reimbursed to the board member as an expense of the community public water system.

3. To avoid board members having to interfere with their jobs or employment, management training sessions may be divided into segments and, to the greatest extent possible, shall be scheduled for evening sessions. The department shall conduct management training on a regional basis and shall use community college or other public facilities for the convenience of the board members.

4. The department may make exceptions to and grant exemptions and variances to the requirements of this section for good cause shown.

Section 2. This act shall take effect and be in force from and after July 1, 1997.”

Immediately following the passage of this legislation, the Mississippi State Department of Health began preparations to develop a comprehensive and practical training program. The Mississippi State University Extension Service, with direct input from the Mississippi State Department of Health, the Mississippi Rural Water Association, and the Community Resource Group, developed this training program to assist board members of public water systems. Because water systems are diverse and board members have a range of experience and education, it is a challenge for educational program developers to meet the needs of the various boards. Environmental and legal problems have accelerated for some water systems. Board members of public water systems must take preventive educational steps to avoid these problems. It is hoped that this “grassroots” approach to meeting educational requirements will serve as an alternative to expanding legal mandates.

Overview ■

As elected representatives of your local water utility, you're fortunate that the State of Mississippi has had the foresight to require that you have some training. Although many of you may chafe at being required to do things, some will chafe even more at being required to do something that seems to be only "common sense."

It is true that serving as a good board member is basically common sense. Because of the multiple responsibilities you have, it can be difficult to recognize the most important ones. That's what this training will help you do. You'll hear over and over the phrases, "It's the responsibility of the board" and "It's your responsibility as a board member." By the end of your 8 hours of training, you should be better prepared to succeed in this job.

That's right—it's a "job!" It's not an honorary position. You don't just sit and listen and make comments. You don't sit around and drink coffee and gossip. You may not have gotten a job description when you were appointed or elected, but you should have. Your community has put its trust in you to make decisions that have a very significant effect on its health, welfare, and economics.

And **yes**, you are responsible legally and morally for the decisions you make or don't make. It's your responsibility to make sure your customers have safe, dependable, and affordable drinking water.

So begin by looking at your legal authority as a board member.

Legal Authority

Each state authorizes by law (either through the state constitution or individual legislation) local entities to provide water and wastewater disposal services to the public. In other words, local organizations in the community can provide water/sewer service if they are granted that right by the state.

You are directing a system authorized to operate by the state; therefore, the laws of the state regulate your actions.

The legal right to supply public water services can be granted to a variety of entities. Some are public entities like municipalities, counties and parishes, and public service districts—improvement or utility districts. Others are nonprofit bodies such as nonprofit corporations.

State laws granting this authority vary, but most will include at least the following:

- The legal process for forming and governing the entity
- General and specific powers granted to the entity by the state
- Powers or authority prohibited by the state
- A variety of other special provisions relating to the functioning of the entity such as legally prescribed methods of operation, record keeping, and reporting requirements to specific state agencies and authorities.

It is the responsibility of each board member to become familiar with and knowledgeable about state laws granting that system the authority to operate, the municipal or corporate charter, county or municipal ordinances establishing the system, articles of incorporation and bylaws, and any other documents relating to the organization of the system.

Without a full understanding of the authority and responsibility granted to the system, a decision maker cannot exercise prudent or proper judgement.

Aside from the authorizing statutes, there are numerous other state laws that may apply to the conduct and administration of the operating entity and the operation of the water system itself. It is the responsibility of board members to learn what other laws and regulations affect the system and to be in compliance with those laws.

The largest body of state law regulating your water system will be one that is designed to protect the public health. Others that may apply to you include the following:

- Procedures for purchasing and procuring goods and services
- Freedom of information and open meeting laws
- Procedures for accounting and auditing financial records
- Ethics standards applicable to boards and council members
- Insurance and bonding for public facilities and public officials
- Laws affecting the ability to incur debt by the entity
- Rights of eminent domain and property acquisition
- Laws regulating service areas or establishing service boundaries
- Laws dealing with sales taxes, use taxes, franchise taxes, and income taxes
- Labor relations statutes of all types

- Laws affecting the frequency, form, and general conduct of the meetings of boards of directors
- Contracts and contracting for services and/or construction activities
- Proper record keeping and reports relating to system operation and management

The types of documents relating to the origination of the legal entity responsible for supplying water to your community may include the following:

- Articles of incorporation
- Petition to courts, court orders, resolutions, or judgments
- Corporation bylaws
- Certificates of operating authority
- Certificates of public convenience and necessity
- Public trust indentures or agreements
- Local ordinances or acts
- State or local enabling legislation
- Municipal charter
- Interlocal agreements with other entities or agencies

All documents that relate to the origination or incorporation of the legal entity authorized to operate your water system are extremely important and must be kept in the system records.

These documents form the legal basis for the system's existence and prescribe the conditions under which the system may legally operate. Similar to the organizational mission statement, these documents provide the framework for the operation and function of the water system. They should be kept in a safe place and should be reviewed periodically by all board members.

The Small System Statement of Purpose

Customer complaints?
Too many long meetings where nothing gets decided?
Personality conflicts on the board?
Never enough money?

Sound familiar?

It is likely that serving on your water system's board hasn't turned out to be exactly what you had in mind when you were elected.

Part of what makes serving on the board of a small water system so difficult is that different groups want different things from your system.

Customers want

- Low water bills
- Dependable service
- Good-tasting and safe water

State regulators want

- Compliance with regulations
- Properly designed systems
- Certified operators

Debt holders want

- Repayment of loans on time
- Financially sound operation
- Good system maintenance to protect their investment

Employees want

- Fair wages
- Good working conditions
- Job security

It is hard to satisfy anyone when everyone wants something different.

One of a board's biggest responsibilities is to balance the various demands on the system.

Is there a way to make balancing competing demands easier? There is no easy answer, but a clear sense of purpose shared by members of the board will help.

If your board spends time and effort developing a statement of purpose it will do the following:

- Provide a common basis for decision making
- Help the board understand all its responsibilities
- Help keep the proper perspective while focusing on day-to-day problems

The statement of purpose defines the results your water system is working to achieve.

At your next meeting, ask the other members of the board to help develop a written statement of purpose for your system. As a board, talk about the questions raised on the previous page. When you develop a statement the entire board can agree on, write it down. Have the board vote this statement of purpose into the official minutes.

Developing a written statement of purpose the whole board supports takes time. Water is taken for granted. The importance of water involves a serious discussion.

Don't expect everyone to agree right away. Remember that everyone comes from a different background and has different experiences.

Don't bury differences of opinion about the purpose of the system. If differences are not settled, they will return later. While talking, members may realize how much they care about the ability of the water system to serve its purpose in the community.

The discussion process gives the board a chance to form closer ties, share expectations for the future of the system, and better understand the differences among board members. Once you have answered these six questions in ways everyone can agree on, you will have a stronger statement of purpose for your water system.

Below is a sample statement of purpose that would be suitable for a small community water system. You may use it as needed.

The purpose of XYZ Water System is to provide its customers with good-tasting water that consistently meets water-quality regulations.

The system will provide water to all its customers at a fair and reasonable price that reflects the full cost of producing, treating, storing, and distributing it.

Service will be dependable, uninterrupted, and operated in a businesslike way.

Because safe drinking water is so important in protecting the public health and the development of the community, the system will try to extend service to all customers in the service area that can reasonably be served.

A clear statement of purpose is like a compass. It helps keep all the day-to-day decisions pointed in the right direction.

The statement of purpose states the basic reasons for the system's existence. Use it as a yard stick for your board's decisions.

Good decisions move the system toward achieving its broader purpose; poor decisions do not. Review your statement of purpose on a regular basis.

Managing vs. Operating: Who Does What?

Most small water systems don't have the money to hire a professional manager. So who takes on those responsibilities?

The board thinks the operator does, the operator thinks the board does, and actually no one does.

Many small systems fail to clearly define the board's, the operator's, and the bookkeeper's responsibilities. They get into trouble because people are not sure who is supposed to be doing what and who is going to be held accountable.

The board is legally responsible for all aspects of the water system. This includes employee supervision, finances, operations and maintenance, planning, and compliance with safe drinking water regulations.

There is a difference between managing the system and operating it. "Managing" refers to the administrative duties such as planning, budgeting, policy setting, etc. "Operating" refers to the technical tasks such as taking water-quality tests, repairing lines, doing preventive maintenance on equipment, and treating water with the proper chemicals. Generally, operators are trained to operate a system, not manage one. Most states don't test for management skills when they certify operators for small systems.

With very small systems, the only employees may be an operator and a bookkeeper, and are often part-time employees. Yet the same kinds of management activities needed for large systems with paid managers and staff must still be handled in a small system. Because the board is legally responsible, participate actively in the management of your system.

What Exactly Is Organizational Management?

Organizational management involves how the decision-making body exercises its delegated authority in governing the utility. The board of directors, board of commissioners, or city council is granted the authority and responsibility for governing the water system and for governing itself. What does this entail?

The following general organizational management responsibilities are governed by state law, articles of incorporation, charter, organization bylaws, or certificate of incorporation. Refer to whichever documents specify what you are authorized or limited to do.

Self Regulation by Boards. In general, the governing body has the responsibility of establishing rules and policies that dictate how the board will operate and conduct business. The governing board's power to regulate its own actions and its own members is an extension of the legal documents mentioned previously. Policies regulating the board's conduct of business deal mainly with procedural matters.

When developing rules and procedures for doing business, it is important that the rules be fair and equitable to all members of the board and to all customers and that the rules are applied fairly and consistently in every case. If your policies aren't consistent, people will question your decision making and your board will lose the trust and confidence of its customers.

Selection of Employees. The governing board has the responsibility to hire and supervise the employees who actually operate the system. This is one of the most important responsibilities the board exercises, especially in small systems in which a part-time operator and a part-time billing clerk/bookkeeper are often the only staff a system can afford. Much of the operating and financial tasks of the system may be carried out by as few as two people. It is important that the people hired by the board have the necessary experience and training to perform adequately and effectively all tasks necessary to run the system on a day-to-day basis.

It is the board's responsibility to decide how many people to employ, what those people will do, how they will do it, when it will be done, and who those people will be. After employment, it is up to the governing board to decide whether the job is being done properly. If not, the board must decide what actions to take to ensure it will be done right in the future.

Remember that employees are an extension of your board. How well the system is operated is a direct reflection on the governing board. Ultimately, the board is legally responsible for the operation and financial health of the system.

This responsibility also applies to any consultants your system may need—such as engineers, attorneys, or accountants. These consultants are "agents" of the governing body, and the board is responsible for the performance of their duties. For this reason, take the same care in selecting and hiring consultants as you take when hiring employees.

General Conduct of Affairs. The governing board is granted the responsibility for the "general conduct" of the utility. This means the board or council is granted the authority to take any actions it considers necessary

to direct the operations of the system. Of course, to be valid, all actions must be legal under state laws, your charter, bylaws, etc.

Borrowing Money. Another major responsibility of the governing board is that of borrowing money. Usually, money is borrowed to finance construction of the system or to make improvements to an existing system. The board may pledge assets, issue certificates of indebtedness, pledge revenues, and issue mortgages or deeds in order to comply with the legal requirements of lenders.

Establishing and Changing Rates, Charges, and Assessments. The governing board of the system has the authority to set water rates, as well as to establish and collect other fees and charges. “Other fees and charges” are the tap fee or initial connection fee, a penalty for late payment of water bills, a reconnect charge if service is disconnected because of nonpayment of bills, and so on.

The water rates of publicly owned systems are usually not regulated by state agencies or authorities. The rates of privately owned systems are regulated by state public service, public utility, or water commissions. Individual states do not have the authority to specify what costs of providing water must be recovered through a utility’s rate structure. This restriction is to ensure that systems have the ability to charge adequate rates to remain financially strong. The Rural Development-United States Department of Agriculture (RD-USDA), formerly Farmers Home Administration, may require a minimum rate structure that the governing board must adopt before a loan application is approved.

How Is All of This Done? It is recommended to use a “committee of one” system. Each member of the board has a specific area of management for which he or she is responsible. The “committee” will take the lead and head the full board toward developing efficient ways to manage its part of the system’s activities. Each member of the board will become an expert for one area of the system.

Cover the following areas:

- Employee and customer relations
- Financial operations and management
- Operations and maintenance
- Planning and development
- Regulatory compliance

A member of the board may have a talent or interest in one particular area, enabling him or her to work

in that area. If the board cannot agree on who will oversee what, then rotate the responsibilities every few months. A special committee may be needed to deal with specific problems such as water loss or delinquent payment of bills.

Some boards have more than five members, so they may have “committees of two” or “committees of three.” Each area needs at least one person who will assume primary oversight responsibility.

The “areas of oversight” are the activities you will supervise and report on to the full board. In most cases, you won’t take any direct action—you will only advise the board so that it can discuss and vote on needed actions.

You will help define what needs to be done, suggest ways of doing it, and make sure the board’s actions are carried out.

Now, what do you do to properly oversee your area? It is easiest to approach your responsibility if you consider the following points for each area:

- Fact-finding
- Planning (setting objectives)
- Implementing
- Overseeing and reporting

Fact-finding. In order to advise the full board in each area of oversight, you have to learn what’s being done in that area. In each area—customer relations, financial management, operations and maintenance, system planning and development, and regulatory compliance—you should ask the following questions:

- What is presently being done?
- What is not being done that should be done?
- What should be done better?

Fact-finding is the process of determining what exists now versus what should exist at some point in the future.

Planning. Planning is the process of setting goals and objectives to be achieved in the future. Based on what you determine in the fact-finding step, objectives are developed and recommended to the full board for each area of oversight. A separate session on planning will be presented later, but an overview is provided now on how you can start it.

Use the area of oversight “operations and maintenance” as an example. In your fact-finding, you discover repair costs have gone up dramatically over the last few years, and now they are equal to 40 percent of the total budget. This may lead you to recommend to the board the objective of reducing repair costs at least 10 percent per year over the next 3 years.

An example of using the area “financial management” could be the following: You notice expenses are increasing faster than revenues are. You may recommend to the full board that it conduct a water rate analysis during the next 12 months to figure out how to meet expenses in the future or if a rate increase is necessary.

Implementation. Once the board has set objectives, make sure everyone is working toward those goals. In the implementation phase, answer the following questions:

- What exactly is going to be done?
- How is it going to be done?
- Who is going to do it?
- When is it going to be done?

Going back to the example, a number of things may have to be done to reach the objective of reducing repair costs. These include developing and using a preventative maintenance program, doing repairs “in house” instead of hiring someone to do them, or putting money from revenues in an equipment replacement reserve fund so you can replace equipment that is likely to break down.

Whatever your area of oversight, it will be your job to see that the system or procedure exists to meet the board’s objectives.

Overseeing and Reporting. The last phase of your committee work is overseeing and reporting. Each “committee” should report to the board at the monthly meetings. The agendas should include the bookkeeper’s report among the reports.

The first “committee” on the list was “employee

supervision.” The person with this responsibility must be available if there’s an employee problem or need. This won’t always be possible, but try to select the person who is most available. Remember the following important rules when working with employees:

- It is impossible for employees to answer to several bosses. Each employee should be responsible to only one person on the board. That one person, the “employee supervision committee,” must have the full board’s authority to act on its behalf with regard to employees.
- Whatever “committee” you are, you’ll have to get information from employees to do your job. You may get information, but remember that you cannot tell them what to do. If they are doing something wrong, report to the board and it will instruct the “employee supervisor” how to handle it.

It will take some time to do these things. You may have had the mistaken idea when you hired a certified operator that your job was done. Not so. Your small water system is a business. As a board member, you have to make it *your* business to know what is going on. The “committee of one” method suggested here is a simple way for everyone on the board to share the responsibilities.

At your next monthly board meeting, get the process going. Set up committees and schedule reports on the next agenda.

You will find things won’t keep slipping through the cracks, and you won’t be as likely to say, “Well, I thought someone else was supposed to do it!”



■ Am I a Good Board Member? ■

Please grade yourself as a board member and as a decision maker. An honest self-assessment should give you an idea of your effectiveness as a board member. Circle the letter that best describes your grade for each statement. The grades should indicate your strengths and weaknesses as you participate in the business conducted by your water system board.

- A B C D F 1. Unless I am sick or a real emergency occurs, I attend all board meetings and am on time.
- A B C D F 2. I carry my share of the responsibility and will do any tasks that I can to see that business is conducted properly and efficiently.
- A B C D F 3. I find out what business will be conducted and am well prepared for the meeting.
- A B C D F 4. I have studied our organization's bylaws.
- A B C D F 5. I really want to serve our organization. I have no personal agenda and expect no hidden financial rewards for serving.
- A B C D F 6. I am familiar with our water system; know most of its users; and know where our lines, wells, and tanks are located.
- A B C D F 7. I am a team player who does not allow my emotions or disagreements with other board members to interfere with my objectivity in making decisions. I try to make decisions that are best for the water system.
- A B C D F 8. I am familiar with the laws that affect our board such as water quality and health department requirements, policies for hiring and firing employees, and liability of boards/board members.
- A B C D F 9. I participate in long-range planning. I know the investment required and the cost of operating the system.
- A B C D F 10. I am for fair water rates. However, I am also for rates that cover operating costs and provide adequate funds for future plans.
- A B C D F 11. I know the major responsibilities of the employees hired by the board.
- A B C D F 12. I believe in periodic evaluation of employees. I also strongly believe in hiring the most qualified person for a job and allowing that person to do the job without interference from the board.

- A B C D F 13. I believe that I should be available to work on specific jobs and committees in order to spread around the work load and not put all of the load on the board president or chair.
- A B C D F 14. I do my best to present a good image of the board to the public. I do not make negative comments that produce friction and disharmony among board members.
- A B C D F 15. I know the policies of the board for bids and contracts and for hiring services for the water system.
- A B C D F 16. I know the rules of the organization concerning rates, late payments, disconnecting services, and reinstating services.
- A B C D F 17. I try to increase my knowledge of our system, our bylaws, the legal and environmental regulations, and other information that would benefit me as a board member.
- A B C D F 18. I know the rules we use for conducting business such as following an agenda, making motions, and finalizing business decisions.
- A B C D F 19. I try to have a good working relationship with the manager, operator, and other employees of the water system or water department.
- A B C D F 20. I urge the board to communicate with users through bill stuffers, newsletters, and/or public media.



■ Pre-Training Test ■

We all know there are varying degrees of problems and challenges facing water system boards, the purpose of this assessment is to gauge your thoughts about your system's current situation and your service as a board member.

1. How often does your water system (board) conduct city/town board meetings?
 - A. Every Month
 - B. Bi-monthly
 - C. Weekly
 - D. Other

2. How often do you attend your city government board meetings?
 - A. Every meeting
 - B. At least 75% of the meetings
 - C. At least 50% of the meetings
 - D. Very Seldom, do I attend water board meetings

3. How often do you hear a report from your waterworks operator or water system department head?
 - A. Every month
 - B. Not every month, but at least six times each year
 - C. Once each year
 - D. Only when necessary
 - E. Never

4. How long has it been since your system has evaluated its water rates?
 - A. Within 1 year
 - B. Within 3 years
 - C. Within 5 years
 - D. Within 10 years
 - E. Longer than 10 years

5. What financial information is made available to you and other members of your board when you have meetings? (Circle All that Apply)
 - A. Current Expenses / Invoices / Claims Docket
 - B. Financial Reports including Income Statement / Balance Sheet / Aged Accounts
 - C. Check Register or Disbursement Journal
 - D. Bank Statements
 - E. Nothing

6. Are you active in planning your system's budget?
 - A. Yes, all board members participate in budget planning process
 - B. No, I only vote on the budget after it has been prepared by other board members serving on the budget committee
 - C. No, I only vote on the budget after it as been prepared by our accountant
 - D. No, I only vote on the budget after one board member or employee has prepared it.
 - E. No, our system does not prepare an annual budget

7. Do you and other board members of your system each have a copy of your bylaws or other governance policies?
 - A. Yes, I bring my copy to every meeting.
 - B. Yes, I bring my copy to the annual meeting only.
 - C. Yes, I never bring it to a meeting – but I have read the bylaws and fully understand the contents.
 - D. No, I don't have a copy but I know that there is an available copy at every meeting.
 - E. I don't know where a copy of our bylaws is located.

8. How much time can a customer of your water system go without paying his bill before his water service is disconnected?
 - A. 30 Days
 - B. 60 Days
 - C. 90 Days or Longer
 - D. It depends on who it is – we do lock a few customers but are not consistent as far as a set time or policy.
 - E. We generally do not disconnect water service for non-payment of customer water bills.

9. When is the last time your system had a pumping test performed on its wells?
 - A. Within 1 year
 - B. Within 2 years
 - C. Within 5 years
 - D. Within 10 years
 - E. I don't know if we have ever had a pumping test.

10. How involved is your board with capital improvements planning?
 - A. We meet at least once each year with our engineer and update our plans for expansion and improvements.
 - B. We rarely consult with an engineer but have a long-term plan for expansion and improvements.
 - C. We don't have a strategic capital improvements plan but occasionally will hire an engineer for a necessary project.
 - D. My board has not considered further capital improvements since our system was constructed.

11. My water system has clear written policies for customer service, financial internal controls, operating procedures, and emergency procedures.
 - A. True
 - B. False

12. My water system has clear written job descriptions for our employees as well as written contracts for non-employees performing regular recurring services for the system.
 - A. True
 - B. False

13. My water system mails newsletters to our customers at least once each year.
 - A. True
 - B. False

14. My water system does not mail out newsletters but attempts to keep customers informed about plans for improvements, rate increases, annual meetings, and other important information.
 - A. True
 - B. False

15. How many years have you served on your water board?
 - A. Less than 1 year
 - B. 1-5 years
 - C. 6-10 years
 - D. 10 - 15 years
 - E. Longer than 15 years

16. How much new information do you think you will learn through the Certified Board Management Training?
 - A. None
 - B. Not very much
 - C. Hopefully, I will learn some new information.

■ Post-Training Test ■

This assessment will further assist efforts to correct any problems, add new subjects, and otherwise improve our efforts in offering quality training and information to other water system board members.

1. If your system is not currently meeting every month, will you attempt to get this policy changed so that you and other members of your board can be kept informed on a regular basis.
 - A. Yes, I understand the importance of meeting monthly and plan to discuss this with other board members as soon as possible.
 - B. No, I do not see the need to meet on a regular basis.
 - C. Does not apply – my system currently meets monthly.

2. I plan to be more active as a board member representing my neighbors and my community as a whole.
 - A. Yes, I understand the important function of serving as a board member and know that I need to get more involved and active in my attendance.
 - B. No, I have no interest in doing anymore than I currently do or fulfilling my duties as a board member.
 - C. Does not apply – I attend every meeting and actively represent my community.

3. I understand the importance of meeting monthly with our waterworks operator and the need to periodically meet with other professionals including our engineer, attorney, and accountant.
 - A. Yes, I want to establish better communication with all professionals that can help our water system provide the best quality drinking water and the best service possible.
 - B. No, I don't see the need to communicate with our operator, engineer, attorney, or accountant.
 - C. Does not apply – my water system actively communicates with our operator and other professionals.

4. I would like to have an analysis performed on my system's water rate structure.
 - A. Yes, I understand the need to have fair and equitable rates that not only provide the necessary revenues for current budgetary expenses, but also to generate funds for emergencies and future capital improvements.
 - B. No, we just raised our rates.
 - C. No, I don't see the necessity of regularly reviewing our rate structure.

5. Do you understand the importance of reviewing your system's financial information monthly?
 - A. Yes, I understand that as a board member, it is part of my fiduciary responsibilities to review financial information and to ensure that the system is operating efficiently.
 - B. No, I do not see the need for board members to review financial information.

6. I plan to actively participate in preparing my system's annual budget.
 - A. Yes, I understand the importance to play an active role in preparing the budget as a decision-maker for my water system.
 - B. No, I will continue to review, make comments, and approve budgets prepared by our professional staff or accountant.
 - C. No, I do not see the need for my system to have an annual budget.

7. I plan to obtain a copy of my system's bylaws or governance ordinances, thoroughly study them, and have them available at all meetings I attend. I also understand the need to periodically have our attorney review our current operation and ensure that we are complying with our bylaws and if not, to either get into compliance or amend the bylaws.
 - A. Yes, I understand the need not only to be very familiar with our bylaws but also to have a copy at every meeting should a situation arise that demands a review of the bylaws.

Section II: State and Federal Laws and Regulations

Safe Drinking Water Act ■

Introduction

Congress passed the original Federal Safe Drinking Water Act (SDWA) in 1974. The law regulates all public water supplies in this country. Congress amended the act in 1986, 1996, and 2002.

The law establishes a cooperative program between the states and the U.S. Environmental Protection Agency (EPA) for public water supply regulation. States can assume primary enforcement authority (primacy) for the act and for subsequent rules and regulations. To date, only Wyoming has not assumed primacy. The EPA manages the program in that state.

The EPA writes all regulations to implement provisions of the law. These regulations are published in Title 40 of the Code of Federal Regulations, Parts 136 to 149. States use the federal regulations as their guidelines. States that assume primacy must have laws and regulations no less stringent than federal requirements.

The Mississippi Legislature adopted the SDWA in 1975 with the stipulation that Mississippi's law and regulations would be no more stringent than federal requirements. Therefore, Mississippi's regulations are exactly as strict as the federal requirements.

The Mississippi State Department of Health (MSDH) is your primacy agency. The Bureau of Public Water Supply (BPWS) administers the program for MSDH. The owner or operator of the water system is responsible for meeting the requirements of the SDWA.

Types of Water Supplies

The law and the regulations apply to all publicly or privately owned "public water supplies." Public water systems are divided into three major types:

■ **Community** water systems serve a residential population of year-round residents. The system must have at least 15 service connections or at least 25 residents. Examples: municipal, subdivision, mobile home park, and rural water systems

■ **Nontransient noncommunity** systems provide drinking water to at least 25 of the same people for at least 6 months per year. These systems must meet the same requirements as community water systems. Examples: schools, factories, and hospitals

■ **Transient noncommunity** water systems are those noncommunity systems that do not meet the definition of a nontransient noncommunity water system. Examples: highway rest stops, restaurants, motels, golf courses, and parks

Requirements of the Safe Drinking Water Act

The law imposes these major requirements on the water system:

- sampling and reporting
- record keeping
- public notification
- water system security

Sampling and Reporting. The water system is directly responsible for monitoring the following:

- inorganic chemicals
- microbiological contaminants
- organic chemicals
- radiological contaminants
- turbidity
- unregulated chemicals

The type of analysis, sampling frequency, and location of sampling points vary from system to system and from contaminant to contaminant.

In Mississippi, the Mississippi Public Health Laboratory performs the analysis for the required contaminants. MSDH provides the containers, transports samples to the laboratory, completes the analysis, and gives results to the water system. The BPWS is available for any assistance or follow-up instructions the water system needs.

Record Keeping. The law requires public water systems to keep the following records in the water system or treatment facility:

- copies of laboratory results, including the name of the person who collected the samples
- dates and locations of sampling points
- records of violations and steps taken to correct violations
- sanitary survey reports
- all other water-quality information

These records are public information. Customers of the water system have the right to inspect these records. The public water supply must provide copies on demand. Table 1 shows how long these records must be kept.

Table 1. Required record keeping and retention

Record	Minimum years retained
Bacteriological analyses	5
Chemical analyses	10
Written reports such as sanitary surveys and engineering reports	10 following completion
Variances and exemptions	5 following expiration
Actions taken to correct violation	3 after last action

Public Notification. The water system must notify the public of any regulation violation. Violations are classified by seriousness.

■ **Immediate Notice (Tier 1):** Any time a situation occurs where there is the potential for human health to be immediately impacted, water suppliers have 24 hours to notify people who may drink the water of the situation. Water suppliers must use media outlets such as television, radio, and newspapers, post their notice in public places, or personally deliver a notice to their customers in these situations.

■ **Notice as soon as possible (Tier 2):** Any time a water system provides water with levels of a contaminant that exceed EPA or state standards or that hasn't been treated properly, but that doesn't pose an immediate risk to human health, the water system must notify its customers as soon as possible, but within 30 days of the violation. Notice may be provided via mail, the media, or posted notices.

■ **Annual Notice (Tier 3):** When water systems violate a drinking water standard that does not have a direct impact on human health (for example, failing to take a required sample on time) the water supplier has up to a year to provide a notice of this situation to its customers. The extra time gives water suppliers the opportunity to consolidate these notices and send them with annual water quality reports (consumer confidence reports).

Consumer Confidence Report. According to the SDWA, all community water systems, regardless of size, are required annually to notify their customers of the quality of the drinking water supplied by the system. Customers receive this notification through a Consumer Confidence Report (CCR). This report contains information about the system's water quality and characterizes any risks from exposure to contaminants in the water in an accurate and understandable manner. A CCR should include information on the source of the water, a list of all contaminants that the water system

tests for, a list of the contaminant levels found in the water, the violations of contaminant levels, the health concerns of the exceeded levels, and definitions of terms.

Water systems of different sizes are required to distribute the CCR through various means based on the population served by the system, not the connections. Systems serving fewer than 500 persons must prepare a CCR and inform customers that it is available upon request. Water systems serving more than 500 and fewer than 10,000 persons may publish the CCR in a local newspaper or mail it to each customer. If the report is published, customers must be informed that it will not be mailed to them. Water systems serving between 10,000 and 100,000 persons must publish the CCR in a general circulation newspaper, mail, or directly deliver the report to its customers. Water systems serving more than 100,000 persons must publish the CCR in a general circulation newspaper, mail, or directly deliver the report to its customers and post the report on its website.

All community water systems in Mississippi are required to prepare and distribute a CCR to their customers and the primacy agency (MSDH) by July 1 of each year. By October 1 of each year, the water system is required to complete a CCR Certification Form to certify that the CCR was delivered to its customers in the manner prescribed by regulation. It is a good idea to submit both the CCR and the certification by July 1 of each year to insure both deadlines are met.

More information on the CCR is found in the Customer Relations section and examples are located in the Appendix.

Guidelines for Issuing a Boil Water Notice.

*Prepared by the Bureau of Public Water Supply
Mississippi State Department of Health
Revised November 16, 2005*

When a water system is placed on a "boil water alert" by MSDH-BPWS, or issues a self imposed "boil water alert", there are usually many questions that arise. This document was prepared to answer most of these questions so that the water system operator/official can prepare and respond when necessary.

1. Who issues "boil water alerts"?

Boil water alerts can be issued by the Mississippi State Department of Health's Bureau of Public Water Supply (BPWS) or by the officials of the water system (self imposed). In most cases, it is preferred that the "boil water alert" be self-imposed by water system officials. However, if there is a significant threat to public health, if the water system has failed to take the initiative in potentially hazardous situations, or if the water

system needs assistance in getting the notice out, the BPWS will issue the alert/order.

2 When are boil water alerts necessary or required?

The State Department of Health's Bureau of Public Water Supply will issue a boil water alert when the following occurs:

- When a water system incurs an Acute Coliform Violation (E.Coli); or
- When a preponderance of the samples collected are total coliform positive (TC+) or E. Coli positive (EC+); or
- When a water system loses pressure or the system is compromised and there is a significant probability that contamination can or will enter the potable water supply, and the water system officials have not issued the alert themselves; or
- When a water system chooses to leave a well in service that has an unresolved coliform positive (TC+) result.

A water system should issue a self imposed boil water alert when:

- the system loses pressure on all or part of the system (the pressure drops below 20 psi), or
- the system is compromised and there is the possibility that all or part of the water system can or will become contaminated.

3. What do the boil water alerts need to say?

The language included in a boil water alert depends on the situation. Regardless of the circumstances, the language should be factual, concise, and easily understood. See the following example to use as a guide when preparing your notice. MSDH also has press releases that may be utilized.

Boil Water Alert Boil Water Alert Boil Water Alert

Local officials today issued a "boil water" notice for customers who get their drinking water from the _____ located in _____ County. _____, spokesperson for the water system, stated this precautionary action was necessary because the system lost pressure due to a main break.

When a water distribution system loses pressure, contaminants can siphon back into the system. Public health officials consider any system that has lost pressure contaminated until tests of the water prove otherwise.

As soon as pressure is restored to those customers affected, water system officials will begin collecting water samples for testing and recommend that consumers vigorously boil their water for one minute

before it is consumed or use an alternate source for drinking/cooking.

Users will be notified when tests indicate the water is safe to drink.

Checklist for Safe Water Use

DO NOT

- *Do not drink tap water while the water system is under boil water advisory.*
- *Do not drink from water fountains in parks or public/private buildings that receive water from the system.*
- *Do not use ice made from water today. Freezing will not necessarily kill harmful bacteria.*
- *Do not use tap water to make drinks, juices or fountain soft drinks.*
- *Do not use tap water to make tea or coffee unless the brewing process brings the water to a boil for at least one minute.*

DO

- *Wash your dishes in boiled water; or use paper plates for the next few days.*
- *Wash your fruits and vegetables with boiled or bottled water since they may have been exposed to affected water from grocery store sprayers.*
- *Wash your hands and bathe as usual. Bathing is safe as long as no water is swallowed.*
- *Brush your teeth with boiled or bottled water.*
- *Cook with tap water if the food will be boiled for at least one minute.*

AND REMEMBER:

- *Properly chlorinated water in swimming pools is safe.*
 - *Fish in aquariums are not affected.*
- Bringing water to a rolling boil for one minute will destroy all major types of harmful bacteria.***

4. If the water system needs to issue a boil water alert, what are the steps?

First, contact the Bureau of Public Water Supply, Compliance and Monitoring, at (601) 576-7518 to let them know what is going on. Next, depending on the severity of the situation, you should contact those affected. If you only have a few customers on one street that were out of water because of a main break, notify them by personal contact, door-hangers, or notes taped to their doors. If a large part (or all) of the water system is affected, then you have to get the word out through the media. Contact the radio stations, television stations, and newspapers that serve your area. Offer to fax a copy of the alert (news release) to them if you can. If you need assistance with the news media, the BPWS can issue the news release for you. We have a very effi-

cient system for getting boil water alerts to the appropriate news media. **REMEMBER: You are responsible for ensuring adequate notification, not MSDH.**

Whether a Boil Water Notice has been issued by the State or by the public water system, it is the public water system’s responsibility to notify its customers. The State can assist with media notification, but we can NOT guarantee that radio and television will broadcast the alert or that the newspaper will print it. The State does NOT have contact information for all your customers. The Public Water System is legally responsible for notifying customers.

If your water system has a database of phone numbers you should consider using an automated dialing service.

- Door hangers are available from the MS Rural Water Association.

- Portable signs can be rented which can be placed at prominent locations/intersections. If none are available to rent, you may be able to use those of your local convenience stores.

Important contacts in the community:

- Local Emergency Management Agency
- Police & Sheriff Departments and Constables
- County Supervisors, City Council or Aldermen Members
- Hospitals, Nursing Homes, Dentists, & Clinics
- Schools & Daycare Facilities
- Fire Department including volunteers
- Homeowner Associations & Neighborhood Watch organizations
- Churches, Businesses, & Industries

You may be able to post signs at convenience & grocery stores.

Schools and churches may be willing to give you contact information for their PTO President or Prayer Chain Captains. Many use email or cell phone text messaging so they could contact many people quickly.

Some systems have had local sign companies to print Boil Water signs for them.

Each water system is unique and will need to determine which methods should be used to contact its customers.

5. What should the water system do to get the boil water alert rescinded or released?

Again, this depends on why the system was placed on boil water alert. If the system lost pressure, as soon as pressure is restored - adequately flush the affected distribution system. After flushing, check to insure that there is adequate chlorine residual throughout the distribution system. When satisfied that system pressure will be maintained and there is adequate chlorine residual, begin sampling.

Samples should be representative of the affected area. Every system should collect a minimum of two samples for the first 25 connections affected, another sample for the next 75 connections. In addition to this minimum, collect one sample for every additional 100 connections affected. For example, if the system had 300 connections affected by the pressure loss, then they would need to collect a minimum of five samples (three for the first 100 connections, plus two for the remaining 200 connections). If the system had 1,000 connections affecting 3,000 people then they would need to collect a minimum of 12 samples (three for the first 100 connections, plus nine for the remaining 900 connections).

The following is a quick reference chart for sampling requirements:

Number of connections affected	Minimum number of samples to collect
01-25	2
26-100	3
101-200	4
201-300	5
300-400	6
401-500	7
501-600	8
601-700	9
701-800	10
801-900	11
901-1,000	12

If the notice was issued in response to bad samples, and not loss of pressure, the water system officials/operator(s) should attempt to determine the source of contamination and/or if the disinfection treatment process is working properly (checking chlorine residuals). Also, they should immediately begin collecting samples from the affected area. If the entire system is placed on "boil water" alert, then samples should be collected from sites representing the entire water system. If the boil water alert is issued because of an acute violation, BPWS will give you explicit instructions on how many samples and where to take them.

6. How long do I have to sample?

You should take at least the minimum number of samples (based on the number of connections affected) each day until you get two consecutive days where all of the samples collected are clear or "good". This means you may have to sample every day for several days in a row before you get two days in a row of good samples. Don't take samples for two days and then wait to see if they are going to be good. **KEEP SAMPLING EVERY DAY.** You may be on your third or fourth day of sampling before the BPWS gets the results from your first two days of sampling.

7. What form or card do I use to submit samples?

All samples submitted in response to a boil water alert should be sent with a 425 card **ONLY. NOTE:** In the upper left hand corner of the sample card mark the **BOIL WATER** box.

8. Who rescinds or takes the system off of the boil water alert?

If the boil water alert was issued by the BPWS, only the BPWS can rescind or take the system off of boil water. If the alert was issued by the water system, then the water system official(s) can rescind it when they are confident that the system is not contaminated. Again, if you need assistance with contacting the media, we can help. See the following example to use when preparing your notice.

Boil Water Alert Boil Water Alert Boil Water Alert

Local officials today lifted the "boil water" notice for people who get drinking water from _____ located in _____ County.

Users were first advised to boil their drinking water on _____ (date) when the system lost pressure. Multiple tests performed by the Mississippi State Department of Health indicate the water now meets the standards of the Safe Drinking Water Act.

Remember, we are all in the business of providing an adequate amount of safe drinking water to the people of Mississippi. Even the best operated water systems will eventually have an occasion when a boil water alert is warranted. Don't be afraid to issue the notice yourself or to contact the Bureau of Public Water Supply for assistance. We should all be willing to err on the side of protecting the public's health rather than worry about who we will inconvenience or make mad.

Water System Security. Following September 11, 2001, Congress passed the "Public Health Security and Bioterrorism Preparedness and Response Act of 2002." This Act (commonly called the Bioterrorism Act), in effect, amended the SDWA of 1996. It requires all public water systems that serve a population of more than 3,300 persons to conduct a Vulnerability Assessment of the water system and to adopt an Emergency Response Plan (ERP) within six months of completion of the Vulnerability Assessment. The Vulnerability Assessment was to be submitted to the EPA no later than June 30, 2004.

MSDH, having primacy for enforcing the SDWA, requires all public water systems, regardless of size, to conduct Vulnerability Assessments and to prepare or adopt an Emergency Response Plan and update both documents annually.

Vulnerability Assessment. The Vulnerability Assessment is simply a process of identifying possible weaknesses within the system that might make the system vulnerable to any type of emergency or disaster, natural or technological (man-made). Special emphasis is directed toward security vulnerabilities that would make the system more vulnerable to intentional acts that could cause a public health concern. The EPA, in cooperation with the Association of Drinking Water Administrators and the National Rural Water Association, developed a template entitled the "Security Vulnerability Self Assessment Guide" to assist operators and officials in conducting the assessment. A copy of this document is included in the Security Vulnerability Self Assessment Guide Section XIII of this manual.

Emergency Response Plan. The Emergency Response Plan is a comprehensive document that details how a public water system would deal with various types of emergencies/disasters. It should be based on the vulnerabilities of the system identified during the vulnerability assessment. The ERP should address the four phases of emergency preparedness: Mitigation, Preparedness, Response, and Recovery. It should include detailed instructions for prioritizing operations, public notices, auxiliary power, emergency supplies and equipment, sources of assistance, and training. A

copy of this template is included in the Emergency Response Plan Section XII of this manual.

The deadline to submit the original certificates of completion to the MSDH was October 1, 2003. However, the ERP and VA must be updated annually and both of these documents must be available to the MSDH Regional Engineer during annual inspections of the water system. If the ERP and/or VA are unavailable to the engineer or if they have not been updated, the system is subject to a significant deficiency. Contact the MSDH Regional Engineer in your area for questions concerning the Vulnerability Assessment or Emergency Response Plan.

Other Regulatory Provisions

Variations and Exemptions. The SDWA allows variations and exemptions from some of the requirements for small water systems having trouble meeting SDWA requirements. These exceptions allow a non-compliant system to supply water to the public for a limited time. The supplier must prove that allowing the variance or exemption poses no threat to the public health. Variations and exemptions are difficult to obtain and are extremely rare.

Citizens' Lawsuits. The law allows the state to take civil court actions against a water system to enforce compliance. Should the state fail to enforce a primary drinking water regulation, the state may ask the EPA to take action or bring civil suit against a water system and the individual board members in Federal District Court.

For a willful violation, the court may impose a fine of up to \$25,000 per day per violation. Each day in non-compliance is a separate violation.

If these actions fail to force compliance, a citizen may file suit against the water system, the state, and the EPA in U.S. District Court. Class-action suits are not allowed. The court can require a citizen seeking a temporary restraining order or injunction to put up a bond. The court can award litigation costs to either party. The complainant must give 60 days notice before taking civil action against the water system, the state, or the EPA.

Emergency Powers. If local and state authorities don't take appropriate corrective action, the EPA may intervene. This applies if the violation poses an "imminent and substantial" danger to the public health. The EPA consults with the local and state authorities before taking action.

The action may include orders to protect the public health, a restraining order, or an injunction. If a water system violates an EPA emergency order, it is subject to a maximum fine of \$25,000 per day per violation.

Siting Requirements. The law includes siting requirements that prevent facilities from locating in areas subject to disasters such as flooding, fires, and earthquakes. Siting requirements also apply to major improvements. However, the regulations do not apply to minor improvements such as installing one service line. Siting requirements apply in the following situations:

- financial agreement to construct a new public water system
- construction of a new public water system
- major expansion or improvement of an existing water system

The BPWS Technical Assistance Branch or BPWS Regional Engineer can supply information about siting requirements for public water systems.

Drinking Water Standards

The law directs the EPA to issue primary and secondary drinking water standards to ensure safe and acceptable water for the consumer. The National Primary Drinking Water Regulations (NPDWR's) protect the public health. Table 3 shows the health effects associated with regulated contaminants.

The secondary standards are based on aesthetic qualities for drinking water. These are nonenforceable guidelines.

The law and the regulations are extensive. A summary discussion of the requirements follows:

Primary Standards. Primary standards are either maximum contaminant level (MCL) or treatment technique requirements.

The MCL is an enforceable standard. Water samples from public water systems must meet this standard for compliance.

An MCL goal (MCLG) is a value associated with no bad health effects. For chemicals that might cause cancer, the goal is set at zero. The MCLG is a goal, not an enforceable standard.

Treatment technique requirements are set for contaminants that are difficult or costly to measure. The EPA can require specific treatment techniques to prevent possible health risks. Treatment technique requirements are enforceable standards. The Lead and Copper Rule and The Surface Water Treatment Rule are examples.

Secondary Standards. Secondary standards are set for those contaminants that affect aesthetic quality (e.g., taste, odor, or color) of water. Water that exceeds the secondary maximum contaminant levels might not be pleasant to drink, but it will not cause health problems. Most complaints that consumers lodge about drinking water are related to secondary standards.

Table 3. Health effects of contaminants regulated by the NPDWR's

Contaminant	Health effect
Microbiological organisms	Cause various illnesses such as gastroenteritis, typhoid, bacillary dysentery, infectious hepatitis, amoebic dysentery, and giardiasis. Some illnesses are potentially fatal.
Turbidity	Protects microorganism from chlorine and other disinfectants, acts as a food source for microorganisms, interferes with maintenance of a chlorine residual in the distribution system, and interferes with coliform testing.
Arsenic	Causes small sores on hands and feet, possibly developing into cancer.
Barium	Causes increased blood pressure and nerve block.
Cadmium	Concentrates in liver, kidneys, pancreas, and thyroid; hypertension is a suspected health effect.
Chromium	Causes skin sensitivity, kidney damage.
Lead	Causes constipation, loss of appetite, anemia, tenderness, pain, gradual paralysis of the muscles, especially the arms, and reduced mental capacity in children.
Mercury	Causes inflammation of the mouth and gums, swelling of the salivary glands, and loosening of the teeth.
Selenium	Causes staining of fingers, teeth, and hair; general weakness; depression; irritation of the nose and throat.
Fluoride	Causes stained spots on teeth (mottling). The amount of discoloration depends on the amount of fluoride ingested.
Nitrate	Causes temporary blood disorder in infants, which can be fatal.
Pesticides Endrine Lindane Methoxychlor Toxaphene	Cause symptoms of poisoning that differ in intensity. The severity is related to their concentration of these chemicals in the nervous system, primarily the brain. Mild exposure causes headaches, dizziness, numbness, and weakness of the extremities. Severe exposure leads to spasms involving entire muscle groups, leading in some cases to convulsions. Suspected of being carcinogenic.
Herbicides 2,4-D 2,4,5-TP	Cause liver damage and gastrointestinal irritation.
Trihalomethanes Haloacetic acids	Suspected as possible carcinogens.
Chlorine	Eye/nose irritation; stomach discomfort. For more information on chlorine go to http://water.epa.gov/drink/contaminants/index.cfm#Disinfectants

Contaminant Groups

The EPA is continuously revising standards for contaminant groups and creating new standards. Refer to 40 CFR, Parts 136 to 149 for the most current regulations.

Microbiological Contaminants. This group includes bacteria, viruses, and protozoa—some of which cause diseases. The coliform group of bacteria is the indicator of microbiological contamination. Coliform organisms are not harmful, but they indicate sewage contamination. Tests to detect coliform bacteria are accurate, easy, and inexpensive.

Other types of bacteria regulated under the Surface Water Treatment Rule are *Legionella*, which cause upper respiratory disease. Tests for heterotrophic bacteria assess the overall bacteriological quality of the water. Enteric viruses, the protozoa *Giardia lamblia* and *Cryptosporidia*, are significant threats to the public health.

Suspended material in water causes turbidity or cloudiness. The suspended material is not contamination, but it shields microorganisms from disinfection. Excess turbidity can allow live pathogens to enter the system. New regulations covering these contaminants are included in the Surface Water Treatment Rule. This rule is a set of treatment technique requirements for systems using surface water or ground water under the direct influence of surface water. Furthermore, all ground water systems must comply with the Ground Water Rule effective December 1, 2009. Refer to epa.gov/safewater for a Quick Reference Guide.

Inorganic Contaminants. Inorganic contaminants are mostly metals. The list includes antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, sulfate, and thallium. The Lead and Copper Rule establishes the EPA regulations for lead and copper. Separate rules are being considered for other inorganic contaminants.

Organic Contaminants. Organic contaminants are subdivided into three categories: volatile organic contaminants (VOC's), synthetic organic contaminants (SOC's), and pesticides/herbicides (PBC's).

VOC's readily volatilize when exposed to air. Most VOC's are industrial chemicals, solvents, or fuel constituents. SOC's are man-made, carbon-containing chemicals and some pesticides and herbicides.

Radiological Contaminants. The radionuclides are radioactive chemicals, mostly natural. These include radon, radium-226, radium-228, uranium, beta particle and photon emitters, and alpha emitters.

Unregulated Contaminants. Unregulated contaminants are monitored, but there is no enforceable standard. Monitoring helps the EPA decide if regulations are necessary and what the MCL for each contaminant should be.

Overview

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources (rivers, lakes, reservoirs, springs, and ground water wells.) SDWA does not regulate private wells serving fewer than 25 individuals. SDWA authorizes the United States Environmental Protection Agency (US EPA) to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. US EPA, states, and water systems then work together to make sure that these standards are met.

Millions of Americans receive high quality drinking water every day from their public water systems, (which may be publicly or privately owned). Nonetheless, drinking water safety cannot be taken for granted. There are a number of threats to drinking water: improperly disposed of chemicals; animal wastes; pesticides; human wastes; wastes injected deep underground; and naturally occurring substances can all contaminate drinking water. Likewise, drinking water that is not properly treated or disinfected, or which travels through an improperly maintained distribution system, may also pose a health risk.

Originally, SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe

drinking water. This approach ensures the quality of drinking water by protecting it from source to tap.

Roles and responsibilities. SDWA applies to every public water system in the United States. There are currently more than 160,000 public water systems providing water to almost all Americans at some time in their lives. The responsibility for making sure these public water systems provide safe drinking water is divided among US EPA, states, tribes, water systems, and the public. SDWA provides a framework in which these parties work together to protect this valuable resource.

US EPA sets national standards for drinking water based on sound science to protect against health risks, considering available technology and costs. These National Primary Drinking Water Regulations set enforceable maximum contaminant levels for particular contaminants in drinking water or required ways to treat water to remove contaminants. Each standard also includes requirements for water systems to test for contaminants in the water to make sure standards are achieved. In addition to setting these standards, US EPA provides guidance, assistance, and public information about drinking water, collects drinking water data, and oversees state drinking water programs.

The most direct oversight of water systems is conducted by state drinking water programs. States can apply to US EPA for "primacy," the authority to implement SDWA within their jurisdictions, if they can show that they will adopt standards at least as stringent as US EPA's and make sure water systems meet these standards. All states and territories, except Wyoming and the District of Columbia, have received primacy. While no Indian tribe has yet applied for and received primacy, four tribes currently receive "treatment as a state" status, and are eligible for primacy. States, or US EPA acting as a primacy agent, make sure water systems test for contaminants, review plans for water system improvements, conduct on-site inspections and sanitary surveys, provide access to training and technical assistance, and take action against water systems not meeting standards.

To ensure that drinking water is safe, SDWA sets up multiple barriers against pollution. These barriers include: source water protection, treatment, distribution system integrity, and increasing public information. Public water systems are responsible for ensuring that contaminants in tap water do not exceed the standards. Water systems treat the water, and must test their water frequently for specified contaminants and report the results to states. If a water system is not meeting these standards, it is the water supplier's

responsibility to notify its customers. Water suppliers now are also required to prepare annual reports for their customers. The public is responsible for helping local water suppliers to set priorities, make decisions on funding and system improvements, and establish programs to protect drinking water sources. Water systems across the nation rely on citizen advisory committees, rate boards, volunteers, and civic leaders to actively protect this resource in every community in America.

Protection and prevention. Essential components of safe drinking water include protection and prevention. States and water suppliers must conduct assessments of water sources to see where they may be vulnerable to contamination. Water systems may also voluntarily adopt programs to protect their watershed or wellhead and states can use legal authorities from other laws to prevent pollution. SDWA mandates that states have programs to certify water system operators and make sure that new water systems have the technical, financial, and managerial capacity to provide safe drinking water. SDWA also sets a framework for the Underground Injection Control (UIC) program to control the injection of wastes into ground water. US EPA and states implement the UIC program, which sets standards for safe waste injection practices and bans certain types of injection altogether. All of these programs help prevent the contamination of drinking water.

Setting national drinking water standards. US EPA sets national standards for tap water, which help ensure consistent quality in our nation's water supply. US EPA prioritizes contaminants for potential regulation based on risk and how often they occur in water supplies. (To aid in this effort, certain water systems monitor for the presence of contaminants for which no national standards currently exist and collect information on their occurrence). US EPA sets a health goal based on risk (including risks to the most sensitive people, e.g., infants, children, pregnant women, the elderly, and the immuno-compromised). US EPA then sets a legal limit for the contaminant in drinking water or a required treatment technique. This limit or treatment technique is set to be as close to the health goal as feasible. US EPA also performs a cost-benefit analysis and obtains input from interested parties when setting standards. US EPA is currently evaluating the risks from several specific health concerns, including: microbial contaminants (e.g., *Cryptosporidium*); the byproducts of drinking water disinfection; radon; arsenic; and water systems that

don't currently disinfect their water but get it from a potentially vulnerable ground water source.

Funding and assistance. US EPA provides grants to implement state drinking water programs, and to help each state set up a special fund to assist public water systems in financing the costs of improvements (called the drinking water state revolving fund). Small water systems are given special consideration, since small systems may have a more difficult time paying for system improvements due to their smaller customer base. Accordingly, US EPA and states provide them with extra assistance (including training and funding) as well as allowing, on a case by case basis, alternate water treatments that are less expensive, but still protective of public health.

Compliance and enforcement. National drinking water standards are legally enforceable, which means that both US EPA and states can take enforcement actions against water systems not meeting safety standards. US EPA and states may issue administrative orders, take legal actions, or fine utilities. US EPA and states also work to increase water systems understanding of and compliance with standards.

Public information. SDWA recognizes that since everyone drinks water, everyone has the right to know what is in it and where it comes from. All water suppliers must notify consumers quickly when there is a serious problem with water quality. Water systems serving the same people year-round must provide annual Consumer Confidence Reports on the source and quality of their tap water. States and US EPA require systems to prepare annual summary reports of water system compliance with drinking water safety standards and make these reports available to the public. The Consumer Confidence Report is due to customers and the primary agency by July 1st of each year. The public must have a chance to be involved in developing source water assessment programs, state plans to use drinking water state revolving loan funds, state capacity development plans, and state operator certification programs.

Reference: U.S. Environmental Protection Agency, Safe Drinking Water Act (SDWA) website epa.gov/safewater



MISSISSIPPI STATE DEPARTMENT OF HEALTH

MEMORANDUM

To: Mississippi Public Water Supplies

From: Melissa Parker, Deputy Director
Bureau of Public Water Supply

Re: Requirement for Notice of Intent to Construct an Individual Wastewater System Prior to Connecting New Water Customers to Mississippi's Public Water Systems

Date: 22 January 2009

It has come to my attention that some of our Officials and/or Certified Waterworks Operators do not fully understand what Mississippi State law requires before public water systems are allowed to connect new water customers. Specifically State law requires that the property owner provide a copy of the Form 335 or "Notice of Intent" (previously referred to as the "pink slip") to construct an individual wastewater system to the Certified Waterworks Operator **before** he/she is authorized to connect or allow the connection of a new water customer to the public water system. **Please note that it is not adequate to have simply filed for the Notice before setting a meter. The property owner should present a completed 335 with site recommendations prior to setting a meter.** By requiring that this "Notice of Intent" be provided prior to connecting new water customers, the public water system can be assured that the property in question has been carefully inspected by an Environmentalist from the local county health department and that the property owner has been advised which individual wastewater disposal alternatives can be expected to function properly on the particular property in question. By assisting the property owner in constructing the "correct" type of individual wastewater system, public health protection is improved through the reduction of the quantity of wastewater discharge that may come in contact with the public water system's water meters and distribution lines.

Please note that Certified Waterworks Operators who are not requiring this "Notice of Intent" prior to allowing new customers to be connected to the public water system are in violation of Mississippi State law and are placing their waterworks operator's license "at risk." **This Bureau is authorized to suspend or revoke a waterworks operator's license due to violations of applicable federal and state laws and regulations. Additionally, officials of public water systems who violate state law can be assessed administrative penalties of up to \$25,000 per violation with each day of continuing violation constituting a separate violation.**

By means of a copy of this memorandum, I am requesting that this agency's County and District Environmentalists notify this Bureau of any public water systems in their jurisdiction that are not requiring that a "Notice of Intent" be provided prior to allowing new customers to be connected to the public water system.

If there are questions regarding this memorandum, please contact me.

pc: MSDH/District & County Environmentalists

570 East Woodrow Wilson • Post Office Box 1700 • Jackson, MS 39215-1700
1-866-HLTHY4U • www.HealthyMS.com

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Other Laws and Regulations

While state and federal drinking water regulations are foremost in most board members' minds regarding applicable laws for water systems, other less emphasized—but important regulations—also apply to public water systems. Board members should be aware of Occupational Safety and Health Administration regulations pertaining to water system personnel involved in trenching, tank inspection, and other hazardous duties. Board members and employees should also be familiar with the requirements of the Mississippi One-Call law pertaining to prior notification of excavation as well as response times to incoming notification of excavation activities requiring locating and marking water lines. Other laws that directly apply to public water systems include the following:

- The Fair Labor Standards Act: regarding exempt and nonexempt employee overtime as well as withholding payroll and other employee issues
- The Civil Rights Act: regarding discrimination and or harassment of employees or customers, workers compensation regulations
- Internal Revenue Service regulations: regarding employee/contractor classification, tax withholding, and filing requirements
- Open meetings/open records laws

Water systems should consult with a competent attorney knowledgeable of these and other laws and regulations.

On-site Wastewater. The goal of the On-site Wastewater program is to reduce the potential for the spread of disease through improper treatment and disposal of human waste. Potential contamination of ground and surface waters is both an environmental and public health concern. Proper disposal of wastewater is critical as the population expands in rural areas of our state.

The On-site Wastewater program develops policy and regulations and provides technical assistance to county/district environmentalists in designing and inspecting Individual On-site Wastewater Disposal Systems, recreational vehicle campgrounds/lodging parks, septage pumpers/haulers and individual water supplies.

An Individual On-site Wastewater Disposal System is a sewage treatment and effluent disposal system that does not discharge into waters of the state. It provides a sanitary method for the disposal of all human waste and other liquid waste. The system must serve only one

legal tract and accept only residential waste and similar waste streams maintained on the property of the generator. It must be designed and installed in accordance with the laws and regulations of the Mississippi State Board of Health.

With regard to public water systems, no public utility supplying water shall make connection to any dwelling house, mobile home or residence without the prior written approval from the Mississippi State Department of Health (MSDH) certifying that the sewage treatment and disposal system at the location of the property complies with law.

Temporary connections of water utilities may be made during construction if the MSDH has approved plan (permit/recommendation) for a sewage treatment and disposal system. The applicant must agree to have the system inspected and approved by the MSDH before the use or occupancy of the property. No temporary or permanent water service connection shall be provided to any mobile, modular, or permanently constructed residence, building, or facility unless the applicant shows proof of the submission of a Notice of Intent.

Property owners with less than two acres must have an IOWDS approved. Property owners with two acres or more may choose to request a two-acre exemption and assume all responsibility, liability, and repairs of the IOWDS on the property. For additional information on the regulations of On-site Wastewater, visit http://msdh.ms.gov/msdhsite/_static/resources/4621.pdf.

County Health Office Environmentalists offer Soil and Site Evaluations that provide property owners with recommendations suitable for installation, collect water samples from private water wells, and investigate environmental (wastewater) complaints.

Central Office Engineers and Program Specialists offer technical assistance and training. Staff engineers review and approve:

- Certified Professional Evaluator's designed IOWDS
- Commercial Developments (Subdivisions, Manufactured, Multi-family, RV Campgrounds/Lodging Parks)
- Commercial Establishments (Restaurant, Child care Facility/School, Church, Shopping Center, Office, etc.)
- Review manufactured designs of wastewater components, etc.

Eighteen courses are offered annually containing Continuing Education Units/Professional Development Hours for those certified in wastewater. Program spe-

cialists also conduct quarterly courses for those interested in becoming:

- A Certified Installer, Pumper, Professional Evaluator, or Environmentalist
- Certified to inspect manufacturer's products
- Certified to perform Quality Assurance

A Notice of Intent is required for any New IOWDS. This Notice of Intent requires:

- applicant and property address
- legal description of property including a plot plan
- number of bedrooms and occupants
- water supply
- soil and site to be evaluated by a local Environmentalist
- a permit/recommendation
- a Certified Installer install and schedule an inspection of the disposal system
- a signed affidavit of final approval

Additional program services available from the On-site Wastewater Program include:

- Performing soil and site evaluations- An evaluation performed by the Department to determine soil texture, structure, color, seasonal high water table depth, restriction and landscape position for an IOWDS to be installed, approved and maintained, including the ability to obtain a water meter.
- Inspect existing IOWDS upon request
- Collect water samples
- Approve private water wells- Inspect the minimum construction standards and collect water samples for E-Coli and Total Coliform Bacteria.
- Certify Installers, Pumpers, Professional Evaluators, and Manufacturers
- Review subdivisions, manufactured home developments, and multi-family dwellings
- Review/Approve/Permit RV campgrounds
- Investigate wastewater complaints and enforcement notices

The MSDH-BPWS letter on the previous page details the procedures that homeowners who are wishing to connect to a public water system and are also intending to construct an on-site wastewater treatment facility must follow. For additional information and updated regulations, visit http://msdh.ms.gov/msdhsite/_static/30,0,78.html

Community Water Fluoridation Program

Community water fluoridation is the adjustment of fluoride that occurs naturally in water to optimal levels to prevent tooth decay. The Centers for Disease Control and Prevention (CDC) has proclaimed community water fluoridation safe and effective and one of ten greatest public health achievements of the twentieth century. Nationally, nearly 70 percent of U.S. residents on public water systems receive fluoridated drinking water. In comparison, 58.2% of the total population in Mississippi receives the benefits of water fluoridation. In 2006 Mississippi ranked 41st in the nation for the proportion of population receiving water fluoridation.

The optimal fluoride level for Mississippi's public water systems ranges between 0.7 and 1.3 parts per million. One part per million is equal to 1 milligram per one liter of water, or comparable to 1 inch in 16 miles. Some communities in Mississippi have maintained water fluoridation programs for more than fifty years.

The average cost for a community to fluoridate its water is estimated to range from approximately \$0.50 a year per person in large communities to approximately \$3.00 a year per person in small communities. In comparison, the average cost to fill one dental cavity is \$101.94. The fluoride content of each public water system in Mississippi is available at <http://apps.nccd.cdc.gov/MWF/Index.asp> or <http://www.healthymms.com/fluoride>.

State Regulation: On April 8, 2009 the MS State Board of Health unanimously approved a regulation that applies only to community water systems serving a population of at least two thousand (2,000). The regulation requires each community water system to acquire and install fluoridation treatment equipment capable of maintaining fluoride levels within the optimal range as defined above. No water system shall be required to comply unless sufficient funds are identified by the Department to construct and install the system, whether by appropriation, capital outlay, grants or similar means or source of funds.

Water systems that fail to comply with the regulation (i.e. monies are available but the community does not implement a water fluoridation program) will be required to inform their customers that they do not comply through the annual Consumer Confidence Report (CCR). Additionally, all water systems water fluoridation programs must report in the CCR the number of months that the average fluoride level is within the optimal fluoride content range. MSDH provides free training for public utility works staff on the imple-

mentation and management of water fluoridation programs.

MSDH's Dental Service has limited funding available to provide to water systems to implement new fluoridation programs on a first-come, first-serve basis. The Bureau of Public Water Supply also has a Drinking Water System Improvements Revolving Loan Fund (DWSIRLF) Program that provides loans for projects of all drinking water facility types, but also to either rehabilitate existing fluoride treatment facilities at well or treatment plant sites, or add new facilities to existing well or treatment plants.

Program Contact Information:

Regulatory sampling and reporting requirements:

Bureau of Public Water Supply
MS State Department of Health
P. O. Box 1700
Jackson, MS 39215-1700

570 East Woodrow Wilson
Underwood 232
(601) 576-7518

Community Water Fluoridation funding:

Office of Environmental Health
MS State Department of Health
P. O. Box 1700
Jackson, MS 39215-1700

570 East Woodrow Wilson
Osborne 300
(601) 576-7690

Title 15 – Mississippi State Department of Health

Part IV – Office of Health Protection”

Subpart 15 – “Bureau of Public Water Supply”

**CHAPTER 01 REGULATION GOVERNING FLUORIDATION OF
COMMUNITY WATER SUPPLIES**

100 GENERAL PROVISIONS

100.01 Coverage.

1. This regulation shall only apply to community water systems (CWS) serving a population of at least two thousand (2,000).
2. Each CWS shall be required to acquire and install fluoridation treatment equipment capable of maintaining fluoride levels within the optimal range as defined in this regulation, and shall comply with all requirements of this regulation for the purpose of protecting the dental health of the citizens of this State. No System shall be required to comply unless sufficient funds are identified by the Department, whether by appropriation, capital outlay, grants or similar means or source of funds, as available to that system for the cost of acquiring and installing fluoridation equipment, and the cost of material required to fluoridate said system for at least one year from the date of initial installation.

100.02 Definitions.

1. **Adjusted fluoridated water system** shall mean a public water system that adjusts the fluoride concentration in the drinking water to the optimal level for consumption (within the recommended control range).
2. **Community Water System (CWS)** shall mean any water system serving piped water for human consumption to fifteen (15) or more individual service connections used year-round by consumers or regularly serving twenty-five (25) or more individual consumers year-round, including, but not limited to, any collection, pretreatment, treatment, storage and/or distribution facilities or equipment used primarily as part of, or in connection with such system, regardless of whether or not such components are under the ownership or control of the operator of such system.
3. **Department** shall mean the Mississippi State Department of Health.
4. **Entry point** shall mean a location following one or more finished (fluoridated) water sampling points but prior to the beginning of the distribution system of the public water system.

5. **Natural fluoride content** shall mean the concentration of fluoride in milligrams per liter (mg/L) that is present in the water source from naturally occurring fluoride sources.
6. **Optimal fluoride level** in Mississippi shall mean the amount of fluoride in water that is found naturally or adjusted within a recommended control range of 0.7-1.3 parts per million fluoride (ppm) with the optimal fluoride level being 0.8 ppm.
7. **Parts per million** shall mean a unit of measurement that is equivalent to 1 milligram per liter (mg/L) where the density of the liquid measured is 1.0 gram per cubic centimeter (the density of water is 1.0).
8. **Public water system (CWS)** means a system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.
9. **Raw water** is defined as water that has not been treated or had fluoride injected into it by the CWS and that contains only naturally occurring levels of fluoride.

101 **ADJUSTED FLUORIDATED WATER SYSTEM REQUIREMENTS**

101.01 **Testing.**

A minimum of three (3) water samples shall be taken by designated CWS personnel on different days each week at all entry points and analyzed for fluoride content. At least once each month at each entry point, designated CWS personnel shall divide (split) one sample (hereinafter referred to as the split sample) and have one portion analyzed for fluoride by designated CWS personnel and the other portion analyzed by the Department's laboratory or a private lab certified by the Department for fluoride testing.

101.02 **Verification.**

Designated CWS personnel shall use water sample fluoride content results to compare with a calculated fluoride dosage to verify fluoridation program operation. The calculated dosage is defined as the calculated amount of fluoride that has been added to a water system. The calculation is based on the total amount of fluoride (weight) that was added to the water system and the total amount of water (volume) that was produced plus the naturally occurring fluoride at the source.

102 **OPTIMAL FLUORIDATION REQUIREMENTS**

102.01 **Monitoring.**

1. The monthly average fluoride content of all water samples requested in section 101.01 shall have fluoride content within the optimal fluoride control range defined in section 100.02.
2. The designated CWS personnel shall collect no less than 13 water samples per month from each entry point for analysis for fluoride and at least 90% of collected samples shall have fluoride content within the optimal fluoride control range defined in section 100.02.
3. The split sample result determined through analysis by designated CWS personnel shall agree with the result analyzed by the Department within a range of +/- 0.2 ppm in at least nine of 12 months during the calendar year.
4. Designated CWS personnel shall submit a report of the results of required water sample testing each month to the Department and shall include the type of fluoride chemical used.

102.02 **Quality Assurance.**

1. MSDH Bureau of Water Supply will assess each system's compliance with this policy on a monthly basis and send letters to the Responsible Official and Operator if the system is not compliant.
2. MSDH will prepare a compliance progress report on a monthly basis that will be made available to interested parties.
3. Each CWS that complies with the optimal fluoridation requirements during the calendar year to the satisfaction of the Department shall be recognized by the Department pursuant to its health promotion policies and guidelines.

103 **COMPLIANCE**

103.01 **Compliance.**

1. CWS that fluoridate shall list in the Consumer Confidence Report the number of months in the previous calendar year that average sample results from a certified laboratory were within the optimal range.
2. Each CWS that fluoridates shall list in the Consumer Confidence Report the percentage of all samples collected in the previous calendar year that sample results were within the optimal range.

104 **AUTHORITY TO REQUEST RAW WATER SAMPLE**

104.01 **Verification.**

The Department shall have the authority to request samples of the CWS raw water source seasonally for fluoride content analysis at the Department's laboratory.

Section III: Conducting Meetings

The Way Business Is Conducted at Board Meetings: A Self-Assessment

Please respond to the following statements related to your water system management. Select only one answer. The answers reflect only the opinion of the board member making the assessment, but the joint opinions of the board members would help point out the strengths and the weaknesses of the board and identify areas where improvement is needed.

1. Our regular board meetings are
 - A. scheduled well in advance for the same week of the month, the same day of the week, and the same time. If changes have to be made, members are contacted several days before the meeting.
 - B. scheduled in advance but not the same week or same day of the week depending on board members' activities and work loads. Members are contacted in advance.
 - C. scheduled from meeting to meeting, as needed, depending on the other activities of board members. Members are usually contacted in advance.
 - D. not scheduled in advance, but all members are contacted when a meeting is held.
 - E. haphazardly scheduled, and usually some board members do not know about the meeting.
2. Agendas for our meetings are
 - A. almost always prepared in advance and sent to all board members before the meeting.
 - B. almost always prepared in advance but not always sent to all members before the meeting.
 - C. prepared before the meeting and handed out to board members at the beginning of a meeting.
 - D. prepared at the beginning of the meeting.
 - E. almost never prepared before business is conducted.
3. Agendas for our meetings
 - A. have enough detail to let members know the exact nature of the business to be conducted.
 - B. have too much detail but are understandable.
 - C. have enough detail but are often too vague to convey the exact nature of the business to be conducted.
 - D. are too sketchy or generic to give evidence of the nature of the business to be conducted.
 - E. are nonexistent.
4. At our meetings, we
 - A. follow the agenda and finish our scheduled business.
 - B. follow the agenda but often get bogged down in details that make our meetings too long.
 - C. follow the agenda, but discussion often strays from the business at hand and we seldom complete our scheduled business.
 - D. often change the agenda as the meeting progresses.
 - E. never follow an agenda.
5. Minutes of our meetings are
 - A. very accurate and reflect exactly what goes on at our meetings, including the approved actions with the precise motions, the vote, and how individual members voted.
 - B. accurate, but often they do not have details related to motions and votes.
 - C. fairly accurate but sometimes vague about exact actions taken by the board.
 - D. often inaccurate, and board members spend too much time correcting minutes.
 - E. sometimes inaccurate, but the board often does not get around to making all the needed changes.
6. Our minutes
 - A. are kept on file, are easily accessible, and provide a precise record of our actions.
 - B. are kept on file and provide a reasonable record of our actions.
 - C. are kept on file, but minutes for some meetings are often missing.
 - D. are filed but often are hard to find and copies are missing.
 - E. are haphazardly filed, often are not filed, and provide a poor record of our activities.

7. Our minutes are
 - A. promptly sent to board members for approval after each meeting.
 - B. usually sent to board members for approval before the next meeting.
 - C. sent to board members for approval, but often board members do not respond before the next meeting.
 - D. not distributed but are read and adopted at the next meeting.
 - E. adopted at the next meeting, but often some things are not clarified.

8. For our board,
 - A. all members know our rules for conducting business, know how to make motions and amendments, and are good at conducting business quickly and effectively.
 - B. most members know our rules for conducting business, but some members often try to ignore the rules in business discussions.
 - C. a few members know our rules for conducting business, but we often do not follow our own rules.
 - D. the president or chair knows the rules, but others are not familiar with the rules and depend solely on the president or chair for keeping things in order.
 - E. we do not follow any specific rules in conducting business.

9. Our board president or chair
 - A. does an excellent job of organizing and conducting meetings.
 - B. does a good job of organizing and conducting meetings.
 - C. does a fair job of organizing and conducting meetings.
 - D. is organized sometimes but often comes to meetings unprepared.
 - E. is poorly organized.

10. Our board president and board members
 - A. make an effort to keep each other informed and help each other in conducting business.
 - B. keep each other informed, but most of the work is usually performed by one or two members.
 - C. have some communication, but work is often done reluctantly by board members.
 - D. have poor communications, and most of the work is done by the president or by one person.
 - E. are sometimes openly hostile to each other, and work is often incomplete.

11. Our manager has been
 - A. carefully selected by the board according to ability, has a specific job description, works without interference from board members, and is subject to an objective performance evaluation by the board.
 - B. carefully selected by the board, manages the system without a job description, often reports to the board, but is not subject to a performance evaluation.
 - C. selected by the board, operates under very close board supervision without a job description, and seldom has to report to the board.
 - D. selected by the board because of influential pressure, does only a fair job of running the system, answers to those that influenced the hiring, and does not systematically report to the board.
 - E. changed several times over the years because it is difficult for managers to work without board interference.

12. Our board
 - A. keeps the water users very well informed of meetings, current board actions, and future plans for the water system.
 - B. complies with all the rules regarding meetings and informs the members by direct personal contact about board actions and plans.
 - C. informs the users indirectly by newspapers or by other mass media about board meetings and board actions.
 - D. does only the minimum required by placing a notice of the annual meeting in a newspaper and only informs users attending the annual meeting about water system business.
 - E. makes no effort to communicate to users and avoids giving out information unless required to do so.

Number of answers: ____A's ____B's ____C's ____D's ____E's (F's)

A Guide for Conducting Business at Board Meetings ■

The keys to effective business meetings are knowledge of the bylaws, a properly prepared agenda, and knowledge of established written rules for conducting business. Some of the major frustrations that board members feel are often related to simple and basic problems of conducting business. Complaints about wasting time, not being informed, meetings taking too long, not knowing exactly what decisions have been made, important issues not being discussed, and an uneasiness about the way the board operates are all to prevalent among Mississippi water system organizations. Some Mississippi municipal water system boards have had members complain publicly that their organizations are not following the rules in conducting legal business. The bylaws contain the major purpose of the system and rules for making operational decisions but usually offer no help in formalizing procedures for conducting meetings.

The president, board chair, or mayor has the major responsibility for conducting meetings, but this person should not have to establish the rules of conduct. These rules should be established and written by the board as part of water system board or municipal policy so that any board member conducting a meeting will follow the same rules.

Scheduling Meetings and Notifying Members

Schedules and agendas for annual meetings and special meetings are prescribed in the bylaws, but regular board meeting procedures are usually not included. Annual meetings of nonprofit associations are legally required. A schedule of regular board meetings should be prepared a year in advance or for an extended period of time. If possible, meetings should be scheduled for the same week of the month and the same day of the week. This pattern makes the meetings easier to remember and helps board members fit the meetings into their schedules, allowing them to plan personal business around board schedules. Changes in the schedules may be made as they become necessary. Meeting once a month is usually not overly burdensome and gives board members the opportunity to become better acquainted in the working environment. For regularly scheduled meetings,

the board should establish a policy to notify board members of the date, time and place of the meeting by first class mail a week before (or a specified number of days before) the meeting and to follow up with a phone call one to two days before the meeting.

Many water system boards have so few members that notification is essential to ensure that a quorum will attend. Usually, the impetus for notification comes from the president or chair, who often asks the secretary to mail the notices and make the calls. For some organizations or associations, the president calls directly to help ensure that board members will attend the meeting.

Agendas

A properly prepared agenda, sent to board members before a meeting, outlines the nature of the business to be conducted. This agenda allows time for better preparation and assures board members that business will be conducted in an orderly and efficient manner. A typical agenda for municipal board meetings will have the following elements:

1. Call to order and proof of quorum
2. Evidence of notices of meeting
3. Reading and approval of minutes
4. Department and committee reports
5. Unfinished business
6. New business
7. Adjournment

A proof of quorum and evidence of meeting notices are necessary to verify that legal meetings are held and that the association or organization is following the rules of its own bylaws. The board should take the approval of the minutes seriously because the minutes provide the only legitimate record and proof of the board's business decisions. There may not be any unfinished business from the previous meeting, but if there is unfinished business, it must be considered before new business is conducted. A business meeting officially ends when a motion is passed to adjourn the business meeting.

Agendas for the regular meetings of the board should not be overly detailed, but they should include enough detail for board members to know the exact business to be discussed at the meeting.

An example of too little detail follows:

3. Needed repairs
4. Replacing a pump

This could be clarified by changing the agenda items to the following:

3. Spending \$2,000 for repairs on the line from Flynn Road to Knarl Hill
4. Spending \$8,000 to replace the pump at well 1 on Knarl Hill

The president, the manager, mayor, department head, or a designated board member should develop the agenda and send it to board members in time for them to think about the topics, gather information if necessary, and prepare for the meeting. Before the agenda is defined, the manager, the operator, and all board members should be consulted to decide which items should be reviewed. The manager usually has the responsibility of contacting the operator and presenting to the board any items from the operator. Priorities should be set only after this is done. Boards need an approved policy that sets a deadline for adding agenda items. The agenda should be changed only if emergencies occur after it has been distributed. The president or chair should check with committees before the agenda is set to determine which committees will report.

Using a Consent Agenda

A consent agenda can be used to improve the effectiveness of a business meeting and to reduce the time required to conduct a meeting. A consent agenda is an agenda pulled from the regular agenda based on items that require action but are not thought to need further discussion. If a board member wants to discuss an item that has been included on the consent agenda, then that member can request that the item be moved from the consent agenda to the regular agenda for discussion. Before removing the item from the consent agenda, the president or chair may ask if the question can be quickly answered or the problem quickly resolved. If this can be done, the board member may then allow the item to remain on the consent agenda. A consent agenda prevents wasting time on matters that have already been reported, that have already been evaluated, that have already been discussed, or that have been fully explained in attached written documents. Decision making is a mere formality on a consent agenda. All consent items are blocked together and voted on in one motion.

For example, the consent agenda on the right was developed from the regular agenda on the left.

Agenda	Consent Agenda
1. Call to order	1. Approval of minutes
2. Declaration of quorum	2. Acceptance of publicity committee report
3. Approval of minutes	
4. Finance committee report: income, expenses, balance	
5. Operations and maintenance report: compliance update, location and severity of leak repairs, recommended improvements or scheduled maintenance	
6. Publicity committee report on news release	
7. Payment of bills, contracts, and bids	
8. Purchasing new pump for Knarl Hill well	
9. Replacing lines from Flynn Road to Knarl Hill	
10. Complaint by Mr. Jones about service to his area	
11. Adjournment	

Approving the consent agenda first would eliminate time spent individually on the items in the regular agenda.

Minutes

Minutes are the legal record for water associations and local governments and their board actions. Taking minutes and reviewing minutes are serious responsibilities. Recording accurate minutes is necessary for the proper functioning of the water system board. Minutes confirm precisely what business was conducted by the board and may provide critical evidence of board decisions. Approved minutes offer board members the assurance of verified activities. They also offer the opportunity to examine records to ensure that required and needed activities of the water system have been conducted. A poor set of minutes often leaves board members more vulnerable to criticism and legal actions.

Several precautions can be taken to reduce the possibility of errors in the minutes. During a meeting, the

secretary should sit in a position where proceedings can be heard and understood. If questions arise, the secretary should immediately ask for clarification. Some secretaries prefer to take notes, tape the proceedings, and then use the notes and the recording to develop the first draft of the minutes.

Minutes should be detailed enough to give the important aspects of the meeting but not so detailed as to record every comment made during the meeting. Actions taken from telephone conferences or other decision forums must be recorded in the minutes.

Copies of the minutes should be distributed to board members for review as soon as possible after the meeting. Delaying distribution can lead to members' forgetting details of the meeting or losing notes from the meeting. The meeting time can be reduced by sending copies to board members for their approval before the next meeting. The minutes usually can then be quickly approved, and the reading and correcting of the minutes can be avoided.

Minutes should

- give the nature of the meeting: regular meeting, special meeting, or emergency meeting. If the meeting is a special meeting, the reason and purpose of the meeting should be specified.
- give the time, date, and location of the meeting.
- list the names of the board members who are present and who are absent.
- list in order of occurrence the matters discussed, the actions taken, and the votes on the actions.
- include the precise wording of the motions made, who made the motions, who seconded the motions, and the votes on the motions by each board member present.
- list the time, date, and place of the next scheduled meeting.
- state the time the meeting was adjourned.

Rules for Making Motions

Any organization that has frequent meetings and heavy business loads should adopt policies about the way business is conducted. Most organizations follow "Robert's Rules of Order," which is specified in the bylaws. These rules are comprehensive. Being knowledgeable about all procedural rules requires extensive study. Therefore, Mississippi rural water associations and municipalities should outline their own short set of rules of conduct. This set of rules must not conflict with the bylaws. The short set can generally be developed from the more extensive rules without conflicting with them. These rules should be written and adopted by the board as a policy of the organization.

The following is an example of a set of rules for making motions:

1. The president or chair is responsible for presiding over business meetings and following the rules of the organization regarding motions.
2. A member is recognized by the chair when no other business is on the floor. The member then presents the motion.
3. Another member seconds the motion. If there is no second, the motion dies.
4. If there is a second, the motion is restated by the chair as written by the person making the motion or as written by the secretary. Any motion made and seconded must be written to ensure accuracy. **Often amendments are not necessary if the board member making the motion includes what is to be done, who is to do it, how much is to be spent, and when it is to be done.**
5. The chair calls for discussion. The board member making the motion is entitled to be recognized first. Each member may make comments twice but are allowed the second comment only after all others have had the opportunity to comment once. Discussion is limited to 3 minutes per comment unless the chair decides that discussion can be extended. If there is no discussion, the chair may call for a vote.
6. An amendment to the motion can be made when a member is recognized by the chair and another seconds the amendment. Discussion follows in the same order as a regular motion. The amendment is voted on first and then the motion. If the amendment is passed, the motion is voted on as amended. If the amendment does not pass, the vote is on the original motion. Amendments and amended motions when restated by the chair must be in writing.
7. When a vote is called for, the vote is announced and the exact motion and the vote by each member is recorded in the minutes.
8. If a member is disruptive and refuses to follow rules, that member may be asked to leave. If the member refuses, charges of disturbing the peace may be brought.
9. If the chair does not follow these rules as prescribed in the policy of the board, members may ask for a procedural explanation from the chair. The president or a board member designated as parliamentarian is responsible for ensuring that a copy of these rules are available at every meeting. Each board should select a board member to be the board parliamentarian and have the responsibility for ensuring that the board follows correct procedures.

Other Rules

Other basic rules may be incorporated if they do not conflict with nonprofit corporation laws or the bylaws. An example of other basic rules that might improve meeting efficiency follows:

1. The time, date, and location of a regular meeting must be posted in a public location known by water system users.
2. The president must contact all board members to seek their input before developing a final agenda for a regular meeting.
3. The agenda for a regular meeting must be distributed to the board at least 2 days before each meeting.
4. Any member user who wants to discuss a problem or an issue before the board must contact the president of the board at least 3 days before the meeting or before the agenda has been distributed to get permission to address the board. The president has the option of approving or not approving the request. If approved, the item is added to the agenda.

5. The president or chair must follow the agenda in conducting a regular meeting.

6. All board members must follow the bylaws, the rules established for making motions, and all other policies approved for the water system board.

7. The minutes of a meeting must be sent out for correction no later than 1 week following a meeting; board members must make comments and corrections no later than 1 week before the next meeting so the secretary can make the changes before submitting final copies for approval at the next board meeting.

These ideas are submitted to help Mississippi water system organizations they conduct business more efficiently. Each organization has its own strengths and weaknesses in this area and will need to establish a plan that fits its particular needs in making effective decisions.



Table 1a. Parliamentary procedures at a glance

(1) To Do This:	You Say This:	May You Interrupt Speaker?	Must You Be Seconded?	Is the Motion Debatable?	Is the Motion Amendable?	What Vote Is Required?
Adjourn the meeting	“I move that we adjourn.”	May not interrupt speaker	Must be seconded	Not debatable	Not amendable	Majority vote required
Recess the meeting	“I move that we recess until...”	May not interrupt speaker	Must be seconded	Not debatable	Amendable	Majority vote required
Complain about noise, room, etc.	“Point of privilege.”	May interrupt speaker	No second needed	(2) Not debatable	Not amendable	(3) No vote required
Suspend further consideration of something	“I move we table it.”	May not interrupt speaker	Must be seconded	Not debatable	Not amendable	Majority vote required
End debate	“I move the previous question.”	May not interrupt speaker	Must be seconded	Debatable	Amendable	Two-thirds vote required
Postpone consideration of something	“I move we postpone this matter until...”	May not interrupt speaker	Must be seconded	Debatable	Amendable	Two-thirds vote required
Have something studied further	“I move we refer this matter to a committee	May not interrupt speaker	Must be seconded	Debatable	Amendable	Majority vote required
Amend a motion	“I move that this motion be amended by...”	May not interrupt speaker	Must be seconded	Debatable	Amendable	Majority vote required
Introduce business (a primary motion)	“I move that...”	May not interrupt speaker	Must be seconded	Debatable	Amendable	Majority vote required

(1) The motions or points above are listed in established order or precedence.

(2) When any one of them is pending, you may not introduce another that’s listed below it, but you may introduce another that’s listed above it.

(3) In this case, any resulting motion is debatable.

(3) Chair decides.

Table 1b. Parliamentary procedures at a glance

(4) To Do This:	You Say This:	May You Interrupt Speaker?	Must You Be Seconded?	Is the Motion Debatable?	Is the Motion Amendable?	What Vote Is Required?
Object to procedure or to personal affront	“Point of order.”	May interrupt speaker	No second needed	Not debatable	Not amendable	No vote required; chair decides
Request information	“Point of information.”	If urgent, may interrupt speaker	No second needed	Not debatable	Not amendable	No vote required
Ask for vote by actual count to verify voice vote	“I call for a division of the house.”	(5) May not interrupt speaker	No second needed	Not debatable	Not amendable	(6) No vote required unless someone objects
Object to considering some undiplomatic or improper matter	“I object to consideration of this question.”	May interrupt speaker	No second needed	Not debatable	Not amendable	Two-thirds vote required
Take up a matter previously tabled	“I move we take from the table....”	May not interrupt speaker	Must be seconded	Not debatable	Not amendable	Majority vote required
Reconsider something already disposed of	“I move we now (or later) reconsider our action” relative to....”	May interrupt speaker	Must be seconded	Debatable if original motion is debatable	Not amendable	Majority vote required
Consider something out of its scheduled order	“I move we suspend the rules and consider....”	May not interrupt speaker	Must be seconded	Not debatable	Not amendable	Two-thirds vote required
Vote on a ruling by the chair	“I appeal the chair’s decision.”	May interrupt speaker	Must be seconded	Debatable	Not amendable	Majority in negative required to reverse chair’s decision

(4) The motions, points, and proposals listed above have not established order or precedence. Any of them may be introduced at any time except when the meeting is considering one of the top three matters listed in above chart (motion to adjourn, motion to recess, point of privilege).

(5) But divisor must be called for before another motion is started.

(6) Then majority vote is required.

Knowing How To Conduct Business: ■ A Learning Exercise for Board Members ■

Circle “yes” or “no” for statements 1-3.

1. We have specific rules or written policies stating how our agendas are developed for our regular board meetings.
yes no

2. We have used a consent agenda at a business meeting of our water association.
yes no

3. Our bylaws specify the rules that we use (such as “Robert’s Rules of Order”) in conducting our business meetings.
yes no

Some of the statements below may have more than one answer. Circle all answers that are correct.

4. Agendas for our annual meetings are
 - A. basically set by our bylaws.
 - B. exclusively determined by the board of directors or selected board members without regard to our bylaws.
 - C. established when members arrive for the meeting.
 - D. none of the above.

5. The agenda for a board meeting
 - A. must be followed by the president in conducting the meeting.
 - B. can be changed anytime the president or chair wants to introduce new business.
 - C. is set before the meeting and is changed only if a current emergency arises.
 - D. is not often used in conducting the meeting.

6. A consent agenda is an agenda that
 - A. all board members have agreed upon.
 - B. an agenda that is separate from the regular agenda and is used for items that have been added after the regular agenda has been completed.
 - C. puts all the business items together.
 - D. is pulled from the regular agenda based on items that do not require further discussion. These items are blocked together and voted on together to save time in conducting meetings.

7. Minutes of our board meeting are
 - A. kept by our secretary who was elected by the board and has this responsibility according to our bylaws.
 - B. kept by our office manager who was appointed by the board.
 - C. kept by different board members according to attendance and availability at meetings.
 - D. written from notes that the president keeps.

8. Minutes
 - A. provide a legal record of board activities during business meetings and are for internal use only.
 - B. need to be accurate because they provide the official record of business conducted by the board.

- C. are informally used to keep a record of business decisions but do not need to be maintained after business action has been completed.
 - D. need to be maintained in a chronological file for a long period of time as a historical and legal record of business activities.
9. To help ensure that accurate minutes are maintained,
- A. copies of the minutes should be distributed to board members soon after a meeting, and the board members should make any corrections promptly and return them so that corrected copies can be prepared.
 - B. tape recorders may be used so that exact proceedings can be reviewed.
 - C. the secretary should be willing to ask questions immediately if clarification of the proceedings is needed.
 - D. each board member should keep notes, especially for items that the individual board member was an active participant in discussing.
10. Minutes should include
- A. every statement made during the meeting.
 - B. the time, date, and place of the meeting.
 - C. a list of the board members present at and absent from the meeting.
 - D. a precise wording of the motions made, who made the motions, who seconded the motions, and the voting results.
11. The rules of conduct that we follow for business meetings
- A. are not part of our bylaws.
 - B. cannot conflict with our bylaws.
 - C. are set in our bylaws to follow “Robert’s Rules of Order.”
 - D. are not part of any bylaws or written policy that we have.
12. For rules that follow “Robert’s Rules of Order,” the order of occurrence for a motion to be accepted or rejected is
- A. motion, discussion, second, vote.
 - B. motion, second, vote, discussion.
 - C. discussion, motion, second, vote.
 - D. motion, second, discussion, vote.
13. Common rules that are often added to improve the efficiency of meetings and save time are done to
- A. limit the number of motions that can be made during a meeting.
 - B. limit the time of discussion by each discussant and limit the number of times each participant can discuss a motion.
 - C. set a time to end the meeting regardless of the business left to do or the progress made.
 - D. not allow amendments to motions.
14. Amendments to motions are normally made
- A. before a motion is seconded.
 - B. after the original motion has passed.
 - C. after the original motion has failed.
 - D. after a motion is seconded and the chair has asked for discussion.
15. Problems with the preciseness of motions can be practically eliminated by
- A. requiring that motions be written.
 - B. requiring the presiding officer to repeat or read the exact motion before a vote.

- C. requiring the secretary to write the motion and read it to the group before recording it in the minutes.
 - D. none of the above.
16. When making a motion, a board member can often reduce the need for an amendment if
- A. the motion is general enough to give some leeway in carrying out the business.
 - B. the motion includes the provision for referring the matter to a specific committee.
 - C. it includes what work is to be done, who is to do the work, when it is to be done, and how much is to be spent.
 - D. none of the above.
17. Business is more easily conducted when it is grounded by
- A. rules that are adopted before a meeting and are applied for that meeting only.
 - B. a set of bylaws, a written agenda, a written policy on making motions and conducting business, and an accurate recording of the minutes.
 - C. a set of bylaws only, because others rules may conflict with the bylaws.
 - D. no rules but depends on an effective presiding officer.
18. Employee problems can be reduced and employee morale can be increased by
- A. hiring a strict manager who supervises employees and helps them with every decision.
 - B. using detailed job descriptions when hiring and by using objective performance evaluations for all employees.
 - C. informally handling the hiring and promotion of employees.
 - D. by hiring employees for short periods of time only and by letting them go when work loads decrease.
19. The people that the board is most responsible to are
- A. the manager and the employees of the board.
 - B. other board members.
 - C. the president or chair of the board.
 - D. the members or users of the water system.
20. The best way to reduce board problems with the members or users of the rural water system is to
- A. do the minimum required in informing users about board meetings and board business. People normally do not want to be bothered with board business and trust the board to make the right decisions.
 - B. put only a public ad in the newspaper about the time and place of the annual meeting and discuss only business at annual meetings.
 - C. keep the users personally informed about proposed budgets, costs, income, future investments, and other business to keep surprises to a minimum and create a more open atmosphere.
 - D. have as little contact as possible with the users and respond to problems through the manager, operator, or other employees.
-

Section IV: Role of City Officials

The following chapter is taken from *Municipal Government in Mississippi, Second Edition*, and reprinted with the permission of the Center for Governmental Training and Technology, Mississippi State University Extension Service.

Forms of Government¹²⁰

Dana B. Brammer

Under Mississippi's optional charter plan,¹²¹ municipalities are given a choice of the basic forms of municipal government found in the United States today: (1) the weak mayor-council form (known in Mississippi as the mayor-board of aldermen form), (2) the strong mayor-council form (known in Mississippi as the mayor-council form),¹²² (3) the commission form, and (4) the council-manager form.¹²³ These options, as they apply to Mississippi, are presented below in the order in which they were made available within the state.

¹²⁰Much of the material in this chapter is derived from Dana B. Brammer and John W. Winkle III, eds., *A Manual of Mississippi Municipal Government*, 4th ed. (Public Policy Research Center, The University of Mississippi, 1987), p. 18-32. The "comments" found at the end of the description of each form of government are extracted from Dana B. Brammer, "Forms of Municipal Government," in *Mississippi Municipal Profile* (Center for Policy Research and Planning, Mississippi State Institutions of Higher Learning; Public Policy Research Center, University of Mississippi; and Mississippi Municipal Association, 1991), p. 17-24. For this 2001 edition, co-editor P. C. McLaurin, Jr. made minor revisions to the text of this chapter.

¹²¹After going through periods of using private charters, the general charter, and the classification charter, Mississippi gradually evolved an optional charter system. Under this system, various forms of government are set out in the statutes and each municipality is free, within the options provided, to choose its particular form. With the exception of the twenty-three municipalities which elected to retain their private, special-act charters which characterized all Mississippi municipalities prior to the adoption of the Mississippi Constitution of 1890, the state's municipalities operate under charters granted by the general laws of Mississippi.

¹²²Strictly speaking, the distinction between the weak mayor-council and the strong mayor-council forms is a matter of degree rather than kind.

¹²³It should be pointed out that while the Code (21-7-1 through 21-7-19) provides a fifth option, "Council Form of Government," only Tupelo meets the population requirements for its adoption. Since Tupelo has abandoned the council form (essentially a weak-mayor form) in favor of the mayor-council form, the council option is meaningless.

Mayor-Board of Alderman Form¹²⁴

The mayor-board of aldermen form of government (also known as the "code charter" form) is today used by approximately 95 percent of Mississippi's nearly 300 municipalities,¹²⁵ despite the fact that this governmental arrangement is the product of a period when the functions of municipal government were few and the desirability of a single executive was not recognized. Until 1908, when the commission form of government gained legislative approval, this form was all that was available within the state. Any newly created municipality may choose this form, and any municipality using an alternate form of government may acquire the mayor-aldermen form by a majority vote of the municipal electors in either a special or general election held for that purpose. If the proposal is defeated, another election on the question cannot be held for four (4) years.

The Governing Body

Under the mayor-board of alderman form of government, the governing body is comprised of a mayor and either five or seven aldermen: five if the municipality has fewer than 10,000 inhabitants, and seven if it has 10,000 or more. Although both the mayor and the board have powers and responsibilities that are theirs alone, the Code frequently (and interchangeably) uses the phrases "the governing authorities" and "the mayor and board of aldermen" in awarding power to municipal governments. It may be argued, in fact, that an examination of the statutes reveals that most of the municipal authority has been awarded to the mayor and the board of aldermen, acting as a body. Of particular significance is the fact that the five (5) "elective officers" (other than mayor and aldermen) established by law – municipal judge, marshal or chief of police, tax collector, tax assessor, and clerk¹²⁶ – may be made appointive at the discretion of the governing authorities. Where an elective officer is made appointive, the person appointed serves at the pleasure of the governing authorities. Moreover, it is discretionary with the governing authorities whether or not that person must reside within the corporate limits.

¹²⁴See Code, 21-3-1 through 21-3-25. (For general powers granted to all municipalities, regardless of the form of government they employ, see Code, 21-17-1 through 21-17-19.) It should be noted that private or special charter municipalities using the mayor-aldermen form of government may operate differently from those operating under a code charter.

¹²⁵The overwhelming majority of municipalities using this form have a population of less than 10,000.

¹²⁶By ordinance, the office of clerk or marshal may be combined with the office of tax collector and/or tax assessor.

Qualifications and Selection of Mayor and Aldermen

The mayor and all members of the board of aldermen must be qualified electors of the municipality and must be chosen by election. The mayor is elected from the municipality at large, while the aldermen are elected either at large, by ward, or by some combination of ward and at-large voting (all aldermen elected from and by wards must be residents of their wards). In municipalities where the population size mandates that there be five (5) aldermen, the five (5) may be elected either entirely at large, or one (1) may be elected at large and four (4) by ward. Where the population size mandates that there be seven (7) aldermen, six (6) are elected by ward and one (1) is elected at large.¹²⁷ Except for a few municipalities operating under a special or private charter which fixes a separate time for holding elections, mayors and aldermen are elected in a general municipal election held on the first Tuesday after the first Monday of June, 1985, and every four (4) years thereafter.¹²⁸ If an alderman moves from his ward, or if the mayor or an alderman elected at large moves from the municipality, the office is automatically vacated and is filled in the manner set out in Code, 23-15-857.

Powers and Duties of Mayor

The mayor is vested with the “superintending control” of all officers and affairs of the municipality and is charged with seeing that the laws and ordinances are executed. He presides over all meetings of the board of aldermen (and thus recognizes its members for the purpose of making motions, speaking to motions, and so on) but is allowed to vote only in case of a tie. The mayor has power to veto any ordinance, resolution, or order adopted by the board of aldermen by returning the measure to the board, together with a written statement of his objections to all or any part of it, within ten days of its receipt.¹²⁹ The mayor is required to sign

all commissions and appointments of officers chosen by the mayor and board of aldermen. In addition, the mayor (along with the clerk) is required to approve all bonds of municipal officers.

Powers and Duties of Board

Although the mayor presides over all meetings of the board of aldermen, only members of the board may make motions and cast votes (except in cases of equal division, where the mayor may cast the deciding vote). The board of aldermen is required to elect from among its members a mayor pro tempore to preside over its meetings and otherwise serve in the place of the mayor in cases of his “temporary absence” or “disability.” The board is also required to submit all its ordinances, resolutions, and orders to the mayor for approval or veto; and in the event the mayor vetoes any measure, the board may override the veto by a vote of two-thirds (b) of the members.

¹²⁷The provisions set out in the text above reflect pre-1962 statutes, since Code, 21-3-7, as modified in 1962, was voided by a federal district court as “a purposeful device conceived and operated to further racial discrimination in the voting process.” *Stewart v. Waller*, 404 F. Supp. 206.

¹²⁸Code, 23-15-173. Municipal primary elections are held the first Tuesday in May preceding the general election; and if a second primary is required, it is held two weeks later. Code, 23-15-171.

¹²⁹See Code, 21-3-15, for conditions under which an ordinance may take effect without the mayor’s approval.

Powers and Duties Shared by Mayor and Board

Exercising appointive authority of governing body. One of the most important areas of shared power is that of appointing and dismissing various municipal officials and employees. As has already been noted, the mayor and aldermen share authority to make the municipal judge, marshal or chief of police, tax collector, tax assessor, and clerk “appointive” officers rather than “elective officers.”¹³⁰ And where that power is exercised, the officer serves at the pleasure of the mayor and board. In addition to these officers, the mayor and aldermen may appoint a street commissioner¹³¹ and such other officers and employees as may be necessary and may prescribe their duties and fix their compensation (they shall require a surety bond for all officers and employees handling public funds).¹³² In practice, the board of aldermen hires and fires subject to the mayor’s veto, while the mayor oversees the daily operation of municipal government and makes recommendations to the board.¹³³ Since

1976, the mayor and aldermen have had specific authority to establish the position of chief administrative officer, but the ordinance doing so requires a two-thirds (b) vote of the aldermen.¹³⁴

Holding board meetings. The mayor and board of aldermen are required to hold regular meetings on the first Tuesday of each month, at a time and place fixed by ordinance (unless another day has been set pursuant to Code, 21-17-17). A second regular meeting may be held when established by ordinance, but that meeting must take place not less than two (2) weeks, nor more than three (3) weeks, after the first meeting. If a regular meeting falls on a holiday, the board will meet the following day. A quorum for the transaction of business requires a majority of all the aldermen. By written notice, the mayor and two (2) aldermen may call a special meeting. All meetings are subject to the provisions of the Open Meetings Act (Code, 25-41-1 through 5-41-17). This act permits closed meetings under certain circumstances. (See Chapter V for a discussion of open meetings.)

¹³⁰An office may not be changed from elective to appointive within 90 days of a regular municipal election, nor may the change become effective during the term of office of any officer whose term shall be affected by the change.

¹³¹In municipalities of less than 15,000 population, the street commissioner may be appointed from among the aldermen.

¹³²For example, the governing authorities determine whether the mayor's position is to be full time or part time and fix the compensation for both the mayor and aldermen. Because each governing body is allowed to determine its own salary scale, a wide variation exists.

¹³³Attorney General's Opinion 90-0301, May 10, 1990.

¹³⁴Code, 21-3-25. Members of the board of aldermen cannot exercise any administrative powers or duties delegated by ordinance to the chief administrative officer.

Comments

The position of mayor is truly a "weak" one in the mayor-board of aldermen form of government, since the mayor is given responsibility for superintending all officers and affairs and for seeing that the laws and ordinances are executed but is not given sufficient powers to do so. Not only may some administrative officers be elected by the voters, but the mayor has limited control over the appointment of nonelective officers. Where these officers are elected, they stand on a coordinate level with the mayor; where they are appointed they often look primarily to the aldermen

for administrative supervision. Even so, a mayor who possesses competence, the ability to persuade others, and a strong personality can make much of the office, despite the fact that administrative power is so diffused as to make identification of responsibility and the coordination of activities difficult. Where the mayor and the board can forge a "partnership" – and where the public demand for services is not great and government is run largely on a part-time basis – the mayor-board of aldermen form appears to work reasonably well.

Commission Form¹³⁵

Whereas the mayor-board of aldermen plan is derived from the application of "separation of powers" and the doctrine of "checks and balances," the commission plan unites legislative and executive power. The plan was born during the first part of the twentieth century, gained Mississippi legislative approval in 1908, and soon became the plan of choice among the state's larger municipalities. While the form never had widespread acceptance in Mississippi, fourteen (14) municipalities at one time or another operated as commission cities. Today, primarily as a result of legal actions challenging the constitutionality of the at-large provisions common to the commission form, Clarksdale and Vicksburg are the only Mississippi municipalities operating as commission cities. Neither of them, however, is a commission city in the classic sense, inasmuch as the at-large electoral system has been modified by both municipalities to meet the requirements of the Voting Rights Act of 1965.

The material presented below summarizes the commission provisions contained in the Code and may differ somewhat from the current practice in both Clarksdale and Vicksburg.¹³⁶ Although the statutes authorize any city to replace its current form of government with the commission form, the provision is, for all practical purposes, meaningless in view of the form's at-large electoral requirements.

¹³⁵See Code, 21-5-1 through 21-5-23. (For general powers granted to all municipalities, regardless of the form of government they employ, see Code, 21-17-1 through 21-17-19.)

¹³⁶This is especially true in Clarksdale, where the commission does not divide the executive and administrative duties and assign them to specific commissioners and where the mayor does not have the right to vote on all matters coming before the commission (he or she presides over the commission but may vote only in case of a tie).

The Governing Body

As set out in the Code, the governing body of a municipality with a commission form of government typically consists of a mayor and two commissioners¹³⁷ who are known collectively as the commission.¹³⁸ The commission, acting as a body, is empowered to perform all the corporate powers, duties, and obligations possessed by the municipality (acting separately, the mayor and commissioners serve as department heads). Each member of the commission, including the mayor, has the right to vote on all questions coming before the body. (See footnote 16.)

The commission fixes the compensation of the mayor and other commissioners (subject to approval by the voters in a special election) and also establishes their office hours.

Qualifications and Selection of Mayor and Commissioners

The mayor and each commissioner must be a qualified elector and a bona fide resident of the municipality for a period of at least one year. The statutes provide that each of them are to be elected at large; but, as previously noted, this is not the current practice in either of the two existing commission cities. Instead, the mayor is elected at large, and the other commissioners¹³⁹ are elected by and from wards. All of them are elected in the general municipal election held every four (4) years.¹⁴⁰

Powers and Duties of Mayor

The mayor is the nominal head of the commission and is responsible for presiding over its meetings, but he is unable to veto any measure passed by the commission. “General supervision of all the affairs and departments of the city government” is vested in the mayor (as is responsibility for reporting to the commission in writing any matters requiring its action), but he is not empowered to hire and fire independently of the other commissioners. Unless the commission grants the mayor authority over personnel, finance, and other management functions, he is really little more than one of three equals.

¹³⁷In 1969, Clarksdale increased the size of its commission from three to five, including the mayor.

¹³⁸While the Code also refers to commissioners as “councilmen,” and to the mayor and commissioners as a “council,” all references in the text above will be to commissioners and the commission in order not to confuse the reader with the council employed in either the council-manager or the mayor-council form of government.

¹³⁹In Vicksburg, the commissioners are called aldermen.

¹⁴⁰See Code, 23-15-171 and 23-15-173.

Powers and Duties of Commission

Except as limited by law, the commission (acting as a body) exercises all executive, legislative, and judicial powers given municipal governing authorities either under the Code sections providing for the commission form of government or under general law. Specific powers include the following: power to organize various city departments and to assign each department to the mayor or commissioner who will “superintend” it; power to create, fill, or discontinue offices and employment; power to set the amount paid to a municipal officer or employee and to make and enforce rules and regulations governing the employment of such officers and employees; power to remove any officer or employee of the municipality (except as limited by law) and to appoint a successor; power to issue and sell bonds; power to make and enforce ordinances and resolutions; and power to elect a vice-president to preside over the commission in the mayor’s absence or inability.

Meetings of Commission

The commission is required to meet on the first Monday in July following the quadrennial municipal election (unless another day has been set pursuant to Code, 21-17-17) and thereafter to meet at least twice a month. If the regular meeting falls on a holiday, the commission will meet the following day. Special meetings may be called at any time by the mayor or by two (2) commissioners. A majority of the commissioners constitutes a quorum for the transaction of business, and the affirmative vote of a majority of all commissioners is needed to adopt any motion, resolution, ordinance, or other measure. All meetings are subject to the provisions of the Open Meetings Act (Code, 25-41-1 through 25-41-17). This act permits closed meetings under certain circumstances. (See Chapter 5 for a discussion of open meetings.)

Comments

Like all forms of government, the commission form has both strengths and weaknesses. The major strengths generally attributed to the plan are these:

- (1) the government structure is simplified, and
 - (2) power and authority are centralized in a few individuals who can be held accountable for their actions.
- Major weaknesses are: (1) power is too centralized, since the persons who make municipal policy are also

responsible for its execution; (2) division of administrative authority among commissioners tends to narrow the focus of commissioners to the needs of their own departments rather than to the needs of the municipality as a whole; and (3) the absence of a chief executive lessens the likelihood of strong policy leadership.

Council-Manager Form¹⁴¹

The council-manager form of government (made generally available to Mississippi's municipalities in 1952)¹⁴² is like the commission form in that it does not provide for the separation of executive and legislative powers between a mayor and a council. It differs from the commission form, however, in that it does recognize the separate but coordinate functions of politics and administration: an elected council is responsible for making policy, while administration is assigned to an appointed professional known as a manager. Even though council-manager government has been highly favored by municipal reformers over the years and is now being used by nearly half of the municipal governments in the United States, it has never been widely accepted in Mississippi. Today, it is found in only six municipalities: D'Iberville, Gautier, Grenada, Moorhead, Pascagoula, and Picayune.

The Governing Body

The governing body of a council-manager municipality is a six-member council consisting of a mayor and five councilmen, except that any municipality which prior to September 30, 1962, had a larger or smaller number of councilmen is permitted to retain that number by adopting an appropriate ordinance.¹⁴³ The council exercises all legislative power, and the mayor serves as the "titular head of the city for ceremonial purposes and for all processes of law." Neither the mayor nor the other councilmen may exercise any administrative power.

Qualifications and Selection of Mayor and Councilmen

The mayor and councilmen, all of whom must be qualified electors of the municipality, are chosen in the general municipal election held every four (4) years.¹⁴⁴ Under the authorizing statute, the mayor is elected at large, while councilmen may be elected either at large or one (1) at large and the others by ward (although

the Code allows at-large election of all councilmen, that electoral system has been overturned where it has been challenged in the federal courts). Each councilmen elected by ward must be a resident of the ward he represents.

¹⁴¹See Code, 21-9-1 through 21-9-83. (For general powers granted to all municipalities, regardless of the form of government they employ, see Code, 21-17-1 through 21-17-19.)

¹⁴²Meridian adopted the council-manager form of government in 1948 (legislation applied only to municipalities in a specific population class), but abandoned it in favor of the mayor-council form in 1985. Grenada adopted the form in 1952 through an amendment to its private charter.

¹⁴³Counting the mayor, the council has six members in D'Iberville, Gautier, and Picayune, eight in Grenada, five in Moorhead, and seven in Pascagoula. A six-member council makes it possible to produce evenly divided votes, but there is no mechanism for breaking ties.

¹⁴⁴See Code., 23-15-171 and 23-15-173. Provisions are made for holding special elections under certain circumstances.

Powers and Duties of Mayor

In addition to being the titular head of the city, the mayor is president of the council and has a voice and vote in all its proceedings. He, however, has neither the veto power nor administrative powers. Moreover, the mayor is not required to maintain an office or to keep office hours.

Powers and Duties of Council

As has already been noted, the council performs the legislative duties of municipal government, but none of the administrative duties. It is responsible for appointing a city manager (this position will be discussed below), as well as the city attorney, the auditor, and the municipal judge, if any. At its discretion, the council also may appoint the city clerk and treasurer.

All other municipal employees are appointed by the city manager, and both the council and the mayor are specifically prohibited from directing or dictating either their appointment or removal. Except for seeking information or advice, all contact between the council and administrative services must be through the manager. While neither the council nor the mayor may give orders to any subordinate of the municipality, the council is empowered to investigate any part of municipal government and may compel the attendance of witnesses and the production of evidence. On the

recommendation of the manager, the council may create new departments, fix their duties and powers, and set compensation. The council fixes the hours of service of all officers and employees and sets its own compensation, as well as the compensation of the mayor and manager. It may appoint one of its members to act in case of the absence or disability of the mayor, and it also may appoint a qualified person to temporarily perform the duties of city manager in case of his absence or disability. It is required to appoint “without delay” an acting manager should that office become vacant. Like the mayor, members of the council are not required to maintain an office or to keep office hours. Except as otherwise provided by law, members of the council are specifically prohibited from serving on any board or commission appointed by the council or under its jurisdiction.

The council is responsible for adopting an annual budget, for securing an annual financial examination of the municipality (like all municipalities, council-manager municipalities are subject to the provisions of the Municipal Budget Law)¹⁴⁵, and for requiring a surety bond for all municipal officers and employees handling public funds. Under the statute authorizing council-manager government, the council is given special privileges with respect to bond and tax rate limitations.¹⁴⁶

¹⁴⁵See Code, 21-35-1 through 21-35-33.

¹⁴⁶See Code, 21-9-57.

City Manager

The city manager is the chief administrative officer of the municipality and must be appointed at a regular meeting of the council. He must be selected solely on the basis of “experience and administrative qualifications” by no less than a majority vote of the total membership of the council. The manager may not engage in any other business or profession while employed as manager, and no member of the council may be appointed city manager during the term for which he was elected. The term of the manager’s appointment is fixed by the council, but no single term may exceed four (4) years (the council may reappoint the manager for successive terms if it so desires). The manager can be removed at any time by a majority vote of the membership of the council, provided he or she is given a written copy of charges. The manager is entitled to a public hearing before the council, but he can be suspended pending the outcome of the hearing. The statute authorizing council-manager government

expressly excludes the manager from the provisions of any civil service act.

As chief administrative officer, the manager is responsible to the council for the entire administration of the city government. In addition, the manager (1) prepares and recommends an annual budget to the council; (2) administers and secures the enforcement of all laws and ordinances of the city; (3) appoints and removes all department heads and employees (except for a few officers named above under “Powers and Responsibilities of Council”); (4) supervises and controls all department heads and other employees and their subordinates; (5) negotiates contracts and makes purchases, subject to approval of the council; (6) enforces franchises and other contracts; (7) makes reports and recommendations he deems “expedient and necessary,” as well as those requested by the council (must submit an annual report of his work and the financial condition of the municipality); and (8) performs other duties required by ordinance or resolution of the council.

Meetings of Council

The council is required to meet regularly on the first Tuesday of each month at a time it has established (unless another day has been designated pursuant to Code, 21-17-17). If the regular meeting falls on a holiday, the council will meet the following day. Special meetings may be called at any time by the mayor or two (2) councilmen, but at least two (2) day’s notice must be given to the mayor and each member of the council. Special meetings also may be called on the written consent of the mayor and all councilmen. At all meetings a majority of the council membership constitutes a quorum, and an affirmative vote by a majority of all members is required for the passage of any measure (unless a greater number is specifically required). The manager and other officers approved by the council may attend meetings and may participate in discussions, but they may not vote. All meetings are subject to the provisions of the Open Meetings Act (Code, 25-41-1 through 25-41-17). This act permits closed meetings under certain circumstances.

Comments

Students of municipal government have both praised and criticized the council-manager form of government. On the positive side, control over the administration of municipal affairs is centered in a single individual who is expected to be a professional manager; government is organized along the lines of modern

business, with the city manager corresponding to the corporate manager and the council corresponding to the board of directors; and professional administration tends to provide a more effective and cost-efficient delivery of municipal services. Major criticisms of the plan are that strong policy leadership is made difficult by the fact that the council, including the mayor, is a body of equals; the six-member council established under Mississippi law makes legislative deadlock a very distinct possibility; the elected council may tend to rely too heavily upon the judgment of the appointed manager, even though the law properly subordinates the manager to the council.

Mayor-Council Form¹⁴⁷

The mayor-council form of government attempts to remedy the failure of the traditional mayor-board of aldermen form to clearly separate administrative and legislative duties and to concentrate responsibility for coordination of governmental activities in the mayor. The form is not a distinctly new one, however, for it differs from the mayor-board of aldermen arrangement primarily in degree. Nationally, this “strong mayor” form began its development in the last two decades of the nineteenth century, but it did not become an option for Mississippi municipalities until 1976.¹⁴⁸ Today, the mayor-council form is employed by nine municipalities: Bay St. Louis, Biloxi, Greenwood, Gulfport, Hattiesburg, Jackson, Laurel, Meridian, and Tupelo. (It should be noted that some of the information presented below is not applicable to the operation of the mayor-council form of government in Greenwood and Laurel, due to litigation altering some of the powers and functions of the mayor vis-a-vis the council.)

The Governing Body

Each municipality operating under the mayor-council form of government is governed by an elected mayor and an elected council consisting of either five (5), seven (7), or nine (9) members.¹⁴⁹ Except as may be otherwise provided by general law, the legislative authority of the municipality is exercised by the council while the executive power is exercised by the mayor.

¹⁴⁷See Code, 21-8-1 through 21-8-47. (For general powers granted to all municipalities, regardless of the form of government they employ, see Code, 21-17-1 through 21-17-19.)

¹⁴⁸The mayor-council form of government was authorized by the legislature in 1973, but did not become effective

until August 1976 when the U.S. Attorney General interposed no objection under the Voting Rights Act of 1965.

Mayor-council government is available to any municipality, regardless of the form of government under which it is operating. See Code, 21-8-1 through 28-8-5, setting out the procedures for adoption of the mayor-council plan. If a municipality adopts the mayor-council form, all statutes in conflict with that form are repealed, but all provisions of the general law which are not inconsistent with the form remain applicable (Code, 21-8-33 through 21-8-43). Existing civil service laws apply, as does “the disability and relief fund for firemen and policemen;” and the organization of the police court and the public schools are not affected by the change to mayor-council government.

¹⁴⁹Only the mayor and the councilmen are elected; all other officers and employees are appointed.

Qualifications and Selection of Mayor and Councilmen

The mayor and each of the councilmen must be qualified electors of the municipality. The mayor is elected from the municipality at large, and councilmen are elected either by ward, or by some combination of ward and at-large voting. Where there are five (5) councilmen, all five (5) may be elected by ward, or four (4) may be elected by ward and one (1) may be elected at large. Where there are seven (7) councilmen, all seven (7) may be elected by ward; or either six (6) may be elected by ward and one (1) at large, or five (5) may be elected by ward and two (2) at large. Where there are nine (9) councilmen, all nine (9) may be elected by ward, or seven (7) may be elected by ward and two (2) at large. The number and method of election of councilmen shall be contained in the petition calling for the election to adopt the mayor-council form. If a councilman moves from his ward, or if the mayor or a councilman elected at large moves from the municipality, the office is automatically vacated and is filled in the manner set out in Code, § 23-15-857. Except as otherwise provided, the mayor and councilmen are elected in the regular municipal election held every four (4) years.¹⁵⁰

The elected municipal officials holding office at the time of the election to adopt the mayor-council form of government continue to serve until their terms are completed; and the governing authorities in office at the time of the adoption of the mayor-council plan, draw the first wards. Thereafter, the existing board, council, or commission establishes the wards to be used in the new government. Thereafter, wards must be redrawn by the council to reflect population changes following each decennial census and annexation of territory.¹⁵¹

¹⁵⁰See Code, 23-15-171 and 23-15-173. Provisions are made for holding special elections under certain circumstances.

¹⁵¹See Code, 21-8-7, for provisions related to redistricting.

Powers and Duties of Mayor

As the possessor of the executive power of the municipality, the mayor is charged with enforcing the charter and ordinances of the municipality, as well as all applicable general laws. He is responsible for supervising all departments of municipal government and for requiring them to make an annual report and such other reports as are deemed desirable. Subject to confirmation by a majority of the council members present and voting, the mayor appoints department heads (directors) and members of any municipal board, authority, or commission. Although department heads are protected by any civil service provisions in effect at the time a city changes to the mayor-council form, all directors appointed subsequently are excluded from civil service protection and may be removed at the mayor's discretion. (Subordinate officers and employees of the municipality are appointed by the department heads and, with the approval of the mayor, may be dismissed by them, subject to any civil service provisions.) Where the council has made provision for a "chief administrative officer" to coordinate and direct the operations of the various departments and functions of municipal government, that officer shall be appointed by the mayor (with the advice and consent of the council) and shall be answerable solely to him and shall serve at his pleasure.

The mayor may attend all council meetings, may take part in discussions, and may make recommendations for actions he considers to be in the public interest; but the mayor may not vote except in case of a tie on the question of filling a vacancy in the council.¹⁵² He must review ordinances, resolutions, orders, and other official actions of the council (excluding procedural actions governing the conduct of council meetings, appointing a clerk of the council, and exercising the council's investigative functions). The mayor may veto ordinances of the council, but the veto may be overridden by two-thirds (b) of the council present and voting.¹⁵³ The mayor is required to maintain an office at city hall.

Whenever the mayor shall be prevented from attending to the duties of office, he is required to appoint a member of the council to assume the duties

of mayor (the person so appointed retains his right to vote in the council). Code, 21-8-19, details specific procedures for filling a vacancy in the mayor's office.

Powers and Duties of Council

In mayor-council municipalities, the council is the legislative body. It elects one (1) of its members to serve as its president and another to serve as vice president (the president, or in his absence the vice president, presides over council meetings and may vote even when presiding¹⁵⁴). In addition, it appoints a "clerk of the council" and any necessary deputy clerks to compile the minutes and records of its proceedings, its ordinances and resolutions, and to perform such duties as may be required by law.¹⁵⁵ Whenever the mayor is unable to appoint a councilman to serve as acting mayor, the council may do so.

The council may establish a department of administration and such other departments as it finds desirable; and it shall allocate and assign all administrative powers, functions, and duties (except those vested in the clerk) among and within the departments. While the mayor appoints department heads and directors, they are confirmed by the council. The council is specifically authorized to adopt an ordinance creating and setting the qualifications for a chief administrative officer to be appointed by the mayor and confirmed by the council. Other specific powers and duties of the council include these: setting the compensation for the mayor and councilmen (where the salary is increased, it does not become effective until the next elected mayor and council take office); setting the salary of all municipal officers and employees; redistricting the municipality after every decennial census and after an annexation; requiring any municipal officer to prepare and submit sworn statements regarding his official duties; causing a full and complete audit of the municipality's finances to be made at the end of the fiscal year; investigating the conduct of any municipal department, office, or agency; appropriating money for the operation of government; overriding vetoes of council actions; appointing a council member to serve as acting mayor in the event the mayor is incapacitated; calling a special election to fill a mayor's unexpired term; and requiring all officers and employees handling public funds to give surety bond.

Except in cities with a population in excess of 190,000, council members are not required to maintain individual offices at city hall (the clerical work of members of the council are performed by municipal

employees at municipal expense). Legislation authorizing mayor-council government prohibits the council from seeking to dictate or require either the appointment or removal of any employee of the municipality. Except for seeking information or advice, the council must deal with departments and employees through the mayor.

¹⁵²See Code, 21-8-7(5), for provisions governing the filling of vacancies in the council.

¹⁵³See Code, 21-8-17, for provisions relating to veto and to conditions under which an ordinance may take effect without the mayor's approval.

¹⁵⁴In the event of the absence of the president or the vice president, the council designates another of its members to preside.

¹⁵⁵The clerk of the council and the city clerk are two separate positions, although the same person may be appointed to fill both positions (the city clerk is appointed by the mayor subject to confirmation by the council).

Meetings of Council

The council is required to hold regular meetings on the first Tuesday after the first Monday in July following the election of council members and at least monthly thereafter on the same day (or at such other times as the council may set). Special meetings may be called at any time by either the mayor or a majority of the members of the council. At any meeting of the council, a quorum shall consist of a majority of the members elected. Where a quorum exists, a majority of the members present may adopt any motion, resolution, or ordinance, unless a greater number is specifically required. All meetings are subject to the provisions of the Open Meetings Act (Code, 25-41-1 through 25-41-17). This act permits closed meetings under certain circumstances. (See Chapter V for a discussion of open meetings.)

Comments

Persons favoring the mayor-council form of government generally agree that the form has the following strengths: (1) in combination with a system of checks and balances, the executive and legislative powers of government are divided logically between the mayor and the council; (2) administrative power is not diffused as it is in the mayor-board of aldermen form, but is consolidated under a single individual who is elected at large and given sufficient appointive and removal powers to make him accountable for implementing established policy (under the council-manager form, administrative power is consolidated under an appointed individual); (3) the council can focus on major policy needs, since it is not burdened with day-to-day administration; and (4) the mayor is placed in a position to provide both strong administrative leadership and strong policy leadership.

Individuals who oppose the mayor-council arrangement usually note these weaknesses: (1) the separation of legislative and executive powers, together with a system of checks and balances, offers many opportunities for conflict and deadlock between the mayor and council; and (2) a politically strong mayor may not possess the qualities essential to a good administrator. The difficulties that result from the second weakness can be lessened, however, by the passage of an ordinance allowing the mayor to appoint a chief administrative officer.

Reference: Center for Governmental Technology,
Mississippi State University Extension Service

Section V: Municipal Utility Policies

The Municipal Utility Policies section for the Board Management Training manual encompasses a wealth of policies and ordinances needed in the functional operations of any public water system. The section contains generic policies, agreements, job descriptions, logs, reports, plans, and budgets that may be manipulated to fit the specific needs of the interested water system. Policies and Ordinances need to be approved by board votes and enforced in order to properly manage and operate a public water system.

Municipal Water Utility Policies

Town of Blue Creek

Section I. General

- 1.01** Pursuant to the authority stated in § 21-17-1 and § 21-17-5 of the Mississippi Code of 1972, the Town of Blue Creek may adopt ordinances or policies that it deems necessary for the management and operation of the town's water utility. The purpose of the Town of Blue Creek Municipal Water System Policies is to serve as a mechanism for the uniform disposition of policy and rules in the administration and operation of the municipal water utility and to comply with capacity development guidelines of the Mississippi State Department of Health.

Section II. Non-Discriminatory Policy

- 2.01** In compliance of the federal Civil Rights Act of 1964, Town of Blue Creek does not discriminate against any eligible person or group of persons on the basis of race, color, religion, sex, age, national origin, political affiliation, familial preference, handicap, belief, or veteran status, or in any manner excluded from employment, promotion, or participation in any program administered or operated by Town of Blue Creek or deny benefits of any service or activity sponsored or provided by Town of Blue Creek This Non-Discriminatory Policy as adopted by the Town of Blue Creek Board of Aldermen prohibits such discrimination either in its employment, its service to its water system customers, its purchasing activities, and all other related activities. The responsibility for the implementation of this Policy rests with Town of Blue Creek Board of Aldermen. Town of Blue Creek shall seek to insure that all customers and applicants for service be treated equitably and given equal access to service, water quality, and water quantity without preference nor discrimination.

Section III. Drug-Free Workplace Policy

- 3.01** Pursuant to the federal Drug-Free Workplace Act of 1988, Town of Blue Creek has established this Drug-Free Workplace Policy. This Policy serves to protect Town of Blue Creek, its employees, and others in addition to limiting liability and maintaining eligibility for receipt of future federal / state financial assistance. Town of Blue Creek is a drug-free workplace. No employee shall engage in the use, sale, manufacture, distribution, possession, or dispensing of prohibited drugs at any time. Town of Blue Creek will adhere to zero tolerance. A verified positive drug test will result in evidence of illegal drug use and the employee will be immediately removed from their safety-sensitive position and terminated. A breath alcohol test resulting in breath alcohol concentration of 0.02 or greater will result in the employee being immediately removed from their position and terminated. As a condition of employment, all employees shall abide by this prohibition and notify the Board of Aldermen of any criminal drug or alcohol statute conviction or a violation of this policy.

Section IV. Sexual Harassment Policy

- 4.01** Pursuant to Title VII of the federal Civil Rights Act of 1964, Town of Blue Creek is committed to providing a workplace free of any manner of harassment which includes, but is not limited to, sexual harassment. Sexual harassment is unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature and includes both 'quid pro quo' and hostile environment.

Section V.
New Customer Service Policy

5.01 General Policy Statement

This policy is intended for those applicants for new water service to serve individual single-family dwellings, small businesses, and other purposes with estimated water usage not to exceed 10,000 gallons per month. Applicants with excessive needs or those applicants proposing a new development of a subdivision, business or industrial development are excluded from this policy and are covered in the Subdivision-Development Policy and / or Applicants with Excessive Needs Policy.

5.02 Water Users Agreement

All applicants for water service must first execute a Utility Users Agreement and pay all applicable fees and a deposit before using water provided by Town of Blue Creek. Applicants requiring the installation of new meters / service taps are required to also pay all applicable fees to connect to the sanitary wastewater system or obtain a MSDH Notice of Intent from the Blue Ridge County Health Environmentalist and submit this form to the Town of Blue Creek.

Security Deposit: (Refundable upon Termination of Services) Permanent Structure \$125.00
Water Tap Fee: (Non-Refundable Materials and Labor Costs of Installing Service) \$350.00

5.03 Applicants with Excessive Needs

Applicants with excessive needs may require the upgrade of existing Town of Blue Creek facilities including its existing water mains, wells, pumps, or other related facilities. The costs for these upgrades shall be paid by the applicant unless Town of Blue Creek receives federal / state funding for the necessary upgrades.

5.04 Subdivisions/Developments

Applicants proposing to develop property (commercial, industrial, or residential) to serve more than one user shall adhere to the following procedures. All project related costs including but not limited to right-of-way procurement, engineering fees, attorney fees, construction costs, and inspection costs shall be paid by the applicant developing the property.

- 5.04.1 The Applicant shall be responsible for procuring the services of a licensed professional engineer to provide cost estimates, design, and construction supervision of proposed extension. Town of Blue Creek reserves the right to have its engineer review the proposed design and make recommendations on necessary changes to the Applicant's extension design. If the Town of Blue Creek Board of Aldermen deem that this review by their engineer is required, all costs associated with the review shall be reimbursed by the Applicant. Town of Blue Creek reserves the right to deny approval of the design of the Applicant's proposed extension.
- 5.04.2 After the conditional approval by Town of Blue Creek, the Applicant (or his engineer) shall submit design plans to MSDH, Bureau of Public Water Supply, Planning and Approval Branch. Upon the Town of Blue Creek's receipt of approval by MSDH, the Board of Aldermen shall grant a Service Extension Agreement and Notice of Intent to Purchase Water Line Extension to the Applicant.
- 5.04.3 The Applicant shall pay Town of Blue Creek a negotiated inspection fee not to exceed 2% of the estimated total project cost for the purpose of the Town providing a Resident Inspector. The said Resident Inspector shall be allowed to inspect all construction activities. The Resident Inspector shall notify the construction contractor and the Applicant's engineer of any problem related to the construction of the proposed extension. Town of Blue Creek reserves the right to revoke the Notice of Intent to Purchase Water Extension if it is determined that inferior workmanship or non-adherence to the approved design plans occurs during the construction of the extension and that the Applicant, his engineer, contractor or other agents do not comply with the recommendations of the Resident Inspector for corrective actions.
- 5.04.4 Upon the completion of construction, the Town of Blue Creek Board of Aldermen shall authorize the pressurization of the extension contingent to approval of the Resident Inspector's Final Report. The Applicant shall be responsible for obtaining all necessary bacteriological samples and for the costs associated with testing those samples by an approved EPA laboratory.

5.04.5 After successful bacteriological testing and approval by MSDH and after other terms and conditions of the Service Extension Agreement and Notice of Intent to Purchase are completed, the Applicant shall sell the extension, final engineering plans, right-of-way easements and other required documentation to Town of Blue Creek for a sum not to exceed \$1.00.

5.05 Exceptions, Administrative Orders:

Town of Blue Creek can not extend service, connect existing meters for new service, or install new customer meters if the water system is near or over the physical capacity and / or if the MSDH has issued an Administrative Order prohibiting the extension, connection, or installation of new customer service. Only after Town of Blue Creek has complied with the conditions of such an Administrative Order, can the Board of Aldermen authorize the extension, connection, or installation of new customers.

**Section VI.
Cut-Off Policy**

6.01 Past Due, Late, and Delinquent Defined

The amount shown on the Town of Blue Creek's monthly customer water statements are due when mailed. Any portion of the current amount that is not paid by the 10th of the month is considered Late and is Past Due. A 10% Late Fee will be assessed to the previously current portion of the customer balance once it becomes Past Due. Any customer owing a Past Due balance on the after the 20th of the month shall be considered Delinquent. Customers with Delinquent balances over \$75.00 will have their service cut-off.

6.02 Restoring Terminated Water Service

Customers who have had their water service terminated due to having a Delinquent balance shall pay a Reconnection Fee of \$50.00 in addition to the entire current and delinquent balances plus any other applicable fees. Customers who have had their water service terminated but are receiving water through a meter that has had its locking device tampered with or removed without authorization from Town of Blue Creek may be prosecuted pursuant to state utility theft codes of law.

**Section VII.
Water Rate Review Policy**

7.01 Preparing the Annual Budget/Annual Water Rate Review

Pursuant to § 21-35 of the Mississippi Code of 1972, the Town of Blue Creek shall prepare an Annual Budget prior to the beginning of each fiscal year. If the water (and other applicable utility revenue accounts) is not projected to adequately cash flow the utility operations, the Board of Aldermen shall either make reductions in the expense budget and increase utility rates or make necessary transfers to cash flow the utility operations. This action including the review of the utility rates shall be recorded in the minutes of the Town of Blue Creek.

7.02 Five-Year Water Rate Review

At a minimum, Town of Blue Creek shall review its water rate structure within five years of the implementation of the last water rate increase. Based on the most recent financial compilation report, if the total water utility revenues do not exceed water utility expenses by at least 10% and it has been at least four years since the last water rate increase, the Board of Aldermen should take steps to increase the water rates to adequately cover not only the current operational costs but also allow for future increases in expenses as a result of inflation and the cost of replacing capital components of the system.

**Section VIII.
Distribution System Flushing and Hydrant Policy**

8.01 Distribution System Flushing

It is the policy of Town of Blue Creek that all dead-end water mains on its distribution system be routinely flushed. Other lines or segments of lines should be flushed if the water is shut-off for any extended period of time or if necessary to correct customer complaints related to the aesthetic properties of water including odor, color, and/or taste. The logistics of the flushing program shall be determined by the Public Works Director who should be cognizant of system hydraulics and the effects of flushing on pressure. All flushing activities shall be documented in the Flushing Log contained in the appendix of this policy and the total estimated amount of water shall be recorded in the Monthly Operating Report that is also contained in the appendix.

**Section IX.
Appendix to Town of Blue Creek General Policies**

9.01 Office Staff Job Description.....	Page 5
9.02 Public Works Director Job Description.....	Page 6
9.03 Flushing Log.....	Page 7
9.04 Monthly Operating Report.....	Page 8
9.05 Water Users Agreement.....	Page 9

Town of Blue Creek Utility Clerk

Job Summary:

Under the supervision of the Public Works Superintendent, the Utility Clerk performs a wide variety of tasks necessary for proper financial management and operation of the utility. This is a non-exempt (hourly) part-time position that works under limited supervision. The position is hired by the full Board of Aldermen. There is a six month probationary period. Evaluations are conducted at the end of the probationary period and annual thereafter during the month of September.

Education and Experience:

Requires at minimum a high school diploma or equivalent and at least two years cash accounting experience working at a public or private organization, preferably with a high level of customer contact.

Other Requirements:

Because this position is charged with the responsibility of handling the cash assets of the Town, the person filling this position must be bonded as a requirement by state law and by bond holders and as a result no person with a felony criminal record can be considered for this position. This position also requires a basic knowledge of computer operations, preferably with experience with accounting or billing software. There will be no waivers granted to the above requirements.

Operational Duties:

- Accounts Receivable Operations –
 - Receives, receipts, posts, and deposit all customer water payments.
 - Ages Accounts Receivable, post late charges to unpaid accounts, and generates monthly cut-off reports.
 - Executes Utility Agreements with new customers, deposits hook-up fees, and enters new customer data in computer.
 - Calculates utility bills by posting meter readings, printing and mailing bills by the end of each month.
 - Closes billing cycle and generates month-ending billing register and summary report by the end of each month.
- Customer Service Operations –
 - Responds to customer billing inquiries and reports of leaks or other problems from 8:30 – 12:30 on Monday, Tuesday, Thursday, and Friday (8:30 – 5:30 on Wednesday) if not a posted holiday.
 - Generates work orders for maintenance staff and records work orders on the Monthly Maintenance Work Log.
 - Returns all customer voice mail messages within 24 hours.
 - Follows up on customer complaints/inquiries to ensure with a Customer Satisfaction Survey post card within 2 weeks of call
 - Maintains alphabetized filing system of all utility customers and routinely files all customer correspondence (with the exception of utility bills), copies of returned checks, utility agreements, and other specific customer records.
- Record-Keeping Operations –
 - Generates required computer reports (billing register, cut-off listing, aged-accounts report, monthly summary report) and files these reports each month.
 - Receives, copies, distributes (for board and PW Director) all agency correspondence and files copies of this correspondence.
 - Assist the Public Works Director in maintaining the required MSDH Capacity Development Filing System.
- Accounts Payable Operations –
 - Obtains Purchase Orders pursuant to the Blue Creek Purchasing and Procurement Policy.
 - Maintains copies of all approved Water & Sewer Department Purchase Orders.
 - Forwards any received claims to the Town Clerk by the end of each month.
- Other Operational Duties –
 - Responds to emergency conditions pursuant the to Town of Blue Creek's Emergency Response Plan.
 - Performs other duties delegated or assigned by the Public Works Director.

Duties Related to the Management and Administration of the System:

- Advises and assists the Town Clerk and the Board in developing the Annual Budget for the Water & Sewer Department.
- Assist external auditor in preparing the annual audit.
- Works closely with the Public Works Superintendent in procuring equipment, supplies, and outside services.

Required Knowledge and Skills:

- Extensive knowledge of cash accounting procedures, internal financial controls, basic math principles, and basic office procedures.
- Working knowledge of computers, software applications, and office equipment.
- Ability to learn new software programs.
- Skills in customer service relations and proper telephone etiquette.
- Ability to understand and follow oral and written instructions.
- Ability to communicate effectively orally and in writing.
- Ability to establish and maintain effective working relationships with the Board, staff, outside service providers, and the customers.

Town of Blue Creek Public Works Director

Job Summary:

Under the limited supervision of the Mayor of the Town of Blue Creek, the Public Works Director performs a wide variety of tasks necessary for the efficient production and distribution of water for sufficient quantity and quality to meet customer demand. In addition, the Public Works Director is responsible for the collection and treatment of waste and for maintaining all public infrastructure including buildings, plants, sidewalks, and parks. This position will be on 24 hour call everyday including weekends and holidays. The position is hired by the full Board of Aldermen. There is a six month probationary period. Evaluations are conducted at the end of the probationary period and annual thereafter during September.

Education and Experience:

Requires at minimum a high school diploma or equivalent and at least two years experience working at a public water supply system. This position also requires a valid MSDH D (or higher) Water Operators Certificate and a MSDEQ Class I Wastewater Operators Certificate. The Board of Aldermen may waive the education and experience requirements if there are no applicants meeting the requirements for this position. However, if such a waiver is granted, the probationary period is automatically extended to one year in which time the person filling this position may be dismissed by a majority vote of the Board of Aldermen if there is reasonable evidence that the lack of education and experience is hindering the execution of the required duties stated below.

Operational Duties:

- Adheres to MSDH Minimum Water Operator Guidelines.
- Ensures compliance with the state and federal EPA water quality standards.
- Provides regular oral and written Operations and Maintenance Reports to the Board of Aldermen summarizing system operations.
- Maintains and supervises control over the inventory of materials, supplies, chemicals, and equipment.
- Performs routine preventative maintenance inspections of equipment; performs repairs, adjustments, and maintenance of pumps, electric motors, valves, meters, chemical feeders, fire hydrants, lubricates and oils machinery, maintains gas engines and compressors, and maintains proper records of preventative maintenance work.
- Calculates water loss figures and supervises leak detection surveys when water lossage exceeds 15% of water produced.
- Responds to emergency conditions according to Town of Blue Creek's Standard Operating Procedures

Duties Related to the Management and Administration of the System:

- Provides supervision to other Public Works staff members and assigns, tracks, and evaluates the performance of these employees.
- Advises and assists the Board of Aldermen regarding repair / replacement of needed equipment.
- Develops estimates for recommended purchases of goods and services.
- Documents all maintenance activities on approved O-M Record Keeping System and presents copies of all work orders along with a statement to the Board of Aldermen each month for review and approval.
- Works closely with the engineers, contractors, and state regulatory officials.
- Participates with the Board of Aldermen and consulting engineers in planning system improvements or expansions.
- Handles customer inquiries and complaints related to water service or billing questions.

Required Knowledge and Skills:

- Extensive knowledge of the methods, practices, tools, and materials used in the operation, maintenance, and repair of water storage, treatment, and distribution equipment and machinery, including but not limited to:
 - Extensive knowledge of chlorination disinfection and corrosion control equipment and required discharge rates.
 - Working knowledge of the mechanics of pumps and other electrical equipment and machinery.
 - Ability to learn plant electrical systems, power circuit changes, and circuit breaker resets.
 - Ability to perform basic chemical tests.
 - Ability to detect and diagnose faulty operation of equipment and make corrections.
- Thorough knowledge of the equipment, tools, and procedures used in installing and repairing water mains, services, fire hydrants, and meters.
- Knowledge of applicable laws and safety regulations for crew and public safety and the proper use of chlorine and other hazardous chemicals.
- Ability to plan, organize, and supervise the operation, maintenance, and repair of the utility's storage, treatment and distribution systems, and the organizational skills necessary for scheduling daily activities.
- Ability to establish and maintain effective working relationships with the Board of Aldermen, staff, contractors, engineers, government and regulatory officials, and the customers.

Town of Blue Creek
P.O. Box 320, Blue Creek, Mississippi 35755

UTILITY USERS AGREEMENT **Account Number** _____
Previous User _____
Application Date _____

I, _____ (Signature of Applicant) _____, hereby make application to Town of Blue Creek, (hereinafter called the Utility) for water service.

Witnesseth

In consideration of the Utility providing water service to me, I agree:

1. To pay all necessary installation and / or connection charges as required by the Utility for water, sewer, and sanitation service, which includes a refundable security deposit.
2. To install and maintain at my expense all necessary service lines, plumbing and fixtures to enable the property owned by me to be connected to the Utility's water meter.
3. To pay all monthly charges beginning with the first complete billing cycle after water service has been established at the Utility's water meter on my property. I understand that regardless of whether or not I have installed the necessary service line or have consumed any water; I will still be required to pay the necessary monthly minimum established by the Utility. I further understand that if I do not receive a statement of current monthly charges it is my responsibility to contact the Utility during normal business hours to arrange payment and the fact that I have not received a water statement does not waive my responsibility to pay those charges or any late assessments or service charges that result for my failure to remit the proper payment when it is due.
4. To properly notify the Utility when I change mailing addresses, if I relinquish control of my property or for any other reason to request that water service to my property be terminated.
5. To grant the Utility, its successors and assigns, a perpetual easement in, over, under and around my property with the right to erect, construct, install, and lay, and thereafter use, operate, inspect, repair, maintain, replace, and remove water pipelines and appurtenant facilities together with the right to utilize adjoining lands belonging to the me for the purpose to ingress to and egress from the Utility's easement.

In consideration of my payment of all charges necessary for the installation and / or connection of water, the Utility agrees:

1. To make every effort to provide a continuous supply of safe potable water to me. I understand that at times due to equipment or power failures, water main breaks, weather related damage, and other unpreventable circumstances that the supply of water to my property may be interrupted. I understand that a guarantee of an uninterrupted supply of water can not be granted by any water utility including Town of Blue Creek and that if my residence or business requires a continuous supply, then it is my responsibility to install at my expense the necessary equipment to provide an alternate water supply. I further understand that I am required by law to notify the Utility of my intention to connect an alternate supply and that the Utility is required by law to inspect the supply to ensure that I have included the required backflow devices to prevent possible contamination to the Utility's water distribution system.
2. To charge me each month the established minimum charge plus applicable rates according to the actual flow usage registered on the Utility's water meter and recorded monthly by the Utility. I understand that at times inclement weather may prevent the reading of the water meter on my property and that the Utility may use an estimated charge based upon my historical consumption and that such estimations are provided by law but restricted by the fact that actual readings must be recorded the month preceding and the month following the estimation and that I must be notified that the charges are based upon usage estimates. I also understand that it is my responsibility to provide proof of reading error or payment error to the Utility in order for an adjustment to be considered.
3. To notify me of any changes in rates, policies, or ordinances of the Town of Blue Creek

Office Use Only		Property Owner: _____	
Amount Received:	\$	Renter: _____	
Retainable Charges:	\$	Mailing Address: _____	
Membership:	\$	Service Address (E-911): _____	
Refundable Deposit:	\$	City/State/Zip: _____	
Date Funds Deposited:	/ /	Telephone (Home): _____ Telephone (Work): _____	
Received By:		Drivers License #: _____ State: _____	
Taxable or Tax Exempt		Social Security Number: _____	
Applicable Rate Table		Section: _____	Plat: _____ Lot: _____

Required Fees

Security Deposit: (Refundable upon Termination of Services) Permanent Structure \$125.00
Water Tap Fee: (Non-Refundable Materials and Labor Costs of Installing Service) \$350.00
Sewer Tap Fee: (Non-Refundable Materials and Labor Costs of Installing Service) \$350.00

CERTIFICATION OF ADOPTION

I hereby certify that the above Town of Blue Creek Municipal Water Utility Policies were adopted by a motion properly made, seconded, and approved by the Town of Blue Creek Board of Aldermen on the _____ day of _____, _____ A.D. with the effective date being _____ day of _____, _____ A.D. I further certify that the policy remains in force, has not been amended, or rescinded.

Certified Record of Vote: _____ voting "Yes", _____ voting "No", _____ Abstaining or Absent.

Directors voting "Yes" Directors voting "No" Directors Absent or Abstaining

Jane Doe, Town Clerk
Town of Blue Creek

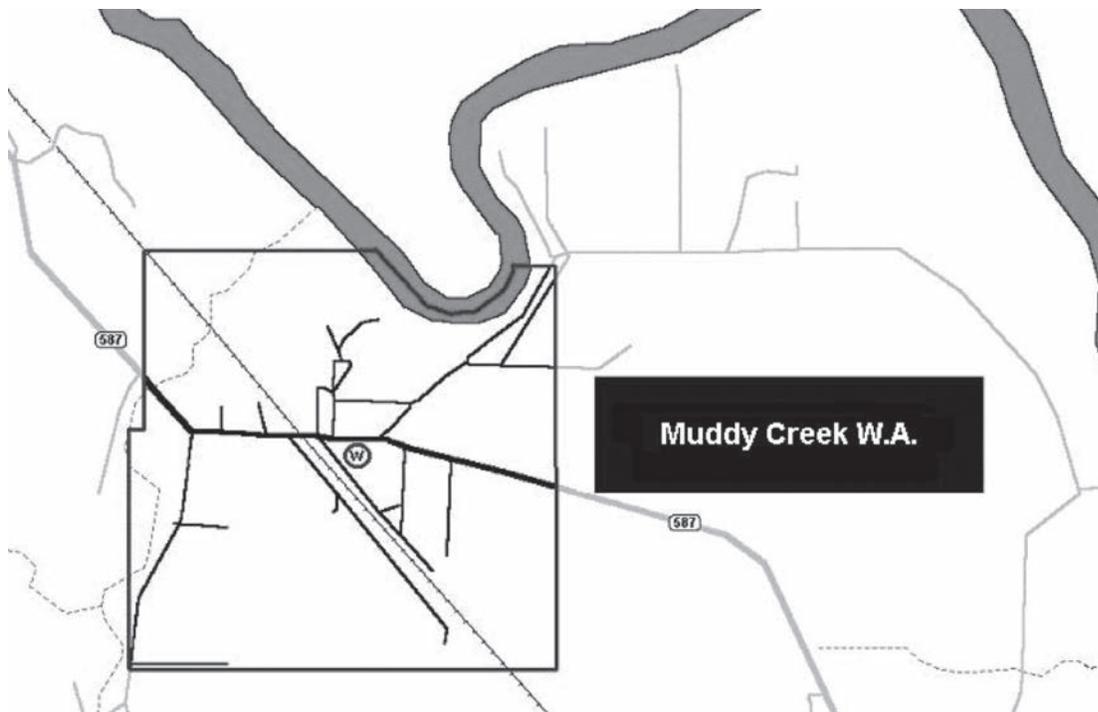
Date

Water Utility Long Range Plan Town of Blue Creek

Town of Blue Creek Water Utility Mission Statement:

To preserve and enhance our water system so that we may provide safe drinking water at an affordable cost that will further improve the quality of life of our customers and promote economic growth...

Incorporated 1905



1.0 Introduction

1.1 Purpose of the Business Plan

The purpose of the Business Plan is to serve as a policy guide in the decision-making process of the Board of Aldermen in planning future improvements and enhancements to the Town of Blue Creek. The Board of Aldermen recognizes the importance of planning in making effective decisions concerning the future of the Association. This plan is a result of an extensive study of the Town's existing technical, managerial, and financial capabilities and anticipates the future goals of the Association as determined by the Board of Aldermen. This plan should be periodically reviewed and amended as necessary to ensure its continued effectiveness as a guideline for anticipating future goals of the Association. At a minimum, the Current Year Capital Improvements Checklist should be completed each year using the 10-year CIP Checklist and scheduled CIP improvements as a guide. The Annual Budget should be updated each year as well. The text of this document should be updated every ten years with current information. Previously completed Business Plans should be a part of the permanent records of the Town of Blue Creek.

1.2 Term and Amendments to the Business Plan

This Business Plan anticipates goals and objectives not to exceed ten years from the date of implementation of the plan. Once this term expires, the Long-Term Goals, Financial Plan, Capital Improvements Plan, and Annual Budget must again be reevaluated and assessed in order for new goals and objectives to be defined. Each year, the Business Plan needs to be updated with the current year's capital improvements checklist and annual budget.

2.0 Background Information

2.1 Customer Profile

Town of Blue Creek currently serves 380 utility customers. These customers are broken down by the following classifications: 334 Residential Water Customers; 8 Commercial Water Customers; 305 Residential Sewer Customers; 8 Commercial Sewer Customers. Average monthly customer water usage is currently 8,600 gallons (3,268,000 usage per month total). The current percentage of usage per customer class is as follows: 68.5% Residential Usage; 19.2% Industrial Usage; and, 15.3% Commercial/Agricultural Usage. Current demographic data reveals that the median age of Town of Blue Creek's customers is 36 years old. The current Annual Median Household Income is \$26,340 and the current Unemployment Rate is 7.8%. Major Employers in the area are Flat Rock Mining, Old River Barge Co., Timber Management, Green Valley Farms, Wal-Mart Distribution Center. Peak Demand Months are June through September and the Historical Customer Growth Rate of Town of Blue Creek is 1.8% per annum.

2.2 Water System Profile

2.2.1 Water Source

Town of Blue Creek currently has two water wells (190005-01 and 190005-02). The current rated design capacity of the Town of Blue Creek is **108.5%** as determined on May 10, 2003 by the Mississippi State Department of Health in its Sanitary Survey. Note that this is NOT acceptable and does not provide a reserve capacity for future growth or economic development. Well #1 (190005-01) is located behind the Town's Office and was drilled in 1967 at a depth of 1380 feet. This well has a 12" casing and a 6" screen and is rated to produce 108 gallons per minute at normal operating pressure (65psi). The second well (19005-02) is located nearby on Hwy 587 and was drilled in 1983 at a depth of 942 feet. This well has a 10" casing and a 6" screen and is rated to produce 195 gallons per minute at normal operating pressure (65psi). Well #1 draws groundwater from the Westchester Aquifer which is classified by the recently completed MSDH Source Water Assessment Plan as having a HIGH PROBABILITY for source water contamination. Well #2 draws groundwater from the Miocene Series Aquifer and is classified by the Source Water Assessment Plan as having a low probability for source water contamination. Town of Blue Creek has no emergency connections to other public water systems but is in close proximity to the Town of Green. The Town of Green has the capacity to serve Town of Blue Creek if a connection were installed. The current analysis (2002 data) of contaminants in Town of Blue Creek's Source Water and Distribution System are listed below. Note that no contaminants exceed National Primary Drinking Water Standards and represent only trace detects.

Contaminants (units)	MCLG	MCL/AL	Town of Blue Creek Water	Low Range	High Range
Barium (ppm)	2	2	0.007	0.007	0.007
Cadmium (ppb)	5	5	0.2	0.2	0.2
Chromium [Total] (ppb)	100	100	2	2	2
Copper (ppm)	1.3	1.3	0.032	0.032	0.032

2.2.2 Water Treatment

Town of Blue Creek's Water System is classified as Class "C" Treatment pursuant to Mississippi State Board of Health Environmental Regulations Part 302.4. Treatment processes include filtration, aeration, corrosion control and disinfection. The Water Treatment Plant is located behind the Town of Blue Creek Association Hall. Water Treatment Equipment includes the following:

1. Aeration – 1 Refinite Induced Draft Aerators. This aerator has a capacity of 250 gallons per minute.
2. Corrosion Control – Lime is injected into the system through a W&T Penwalt Lime Hopper set at a 20% stroke. Finished water targets an optimal pH level of 8.0 or greater.
3. Disinfection – Gaseous Chlorination consisting of one Hydro – Type 25 PPD Chlorinator, one Stay Rite Booster Pump, and one Hydro-Type Chlorine Ejector. Optimal Free Chlorine Residual at the treatment plant is 1.0 mg/l or greater.

2.2.3 Water Storage and Pressurization

Town of Blue Creek has one (1) Hydropneumatic Water Storage Tank located at the water well. This is a 10,000 gallon tank that normally operates between 50 psi to 70 psi.

2.2.4 Water Distribution System

Town of Blue Creek's Water Distribution System consists of mainly PVC schedule 126 water mains and service tubing, cast iron MJ water valves, and 4" fire hydrants. Most consumer water meters on the Town of Blue Creek's water distribution system are PDM-type meters. A hydraulic analysis has not been completed on the Morgantown water system.

2.3 Personnel and Management

Town of Blue Creek is governed by the Mayor / Board of Aldermen. The Board operates under the provisions of State Law § 21-17-1. The Board of Aldermen meets on the first Tuesday of each month (unless a holiday in which the Board of Aldermen meets the following week) at 7:00 p.m. at the Town of Blue Creek City Hall. All meetings are open to the public. The Board President serves as the ad hoc manager of the Town of Blue Creek and the point of contact for the Town's employees. The Association employees one (1) part-time certified water operator under contract. The requirements for this position are outlined in the contract and stipulate a minimum operator license of MSDH Class C. Pursuant to the contract, the certified operator provides guidance to the Town of Blue Creek staff, is available 24 hours a day for water emergencies, and reports to the Board of Aldermen each month. The Association also employees a part-time bookkeeper who's principle duties include the collection, posting, and depositing of customer payments, the disbursement of approved claims, and record-keeping. Additional financial operations are contracted through a professional engagement with a local accountant who provides monthly financial reports to the Board of Aldermen. The Association also employs a part-time maintenance technician/meter reader who performs normal preventative and corrective maintenance to the system daily as well as reads customer meters each month. The Board of Aldermen enjoys the benefit of legal consul through a retainer with a local attorney who attends the first meeting of each month.

Current written Policies and Procedures include the aforementioned Town of Blue Creek Bylaws as well as a Customer Service Policy, Operation & Maintenance Procedures, Emergency Response Plan, and a Cross Connection Control Policy.

3.0 Long-Term Goals

The Town of Blue Creek sought the input from various stakeholder groups before the development of the following long-term goals. These groups included the following stakeholders: Town of Blue Creek Customers, Town of Blue Creek Employees, Green County Economic Development Association, Green County School Association, as well as advice from our Attorney and Accountant and guidance from the MSDH. It should be noted that while some identified needs were common with other groups, some of these same needs conflicted with the needs, advice, or guidance of other stakeholder groups. It was imperative that the Town of Blue Creek Board of Aldermen weigh not only the needs, advice, and guidance communicated the Board of Aldermen but also that the Board of Aldermen take into account current and future regulatory requirements, infrastructure needs, and the Town's finances in developing these goals.

- 1. Develop and Adhere to a 10-Year Capital Improvements Plan;*
- 2. Secure Grants and Low-Interest Loans to assist in the financing of the replacement / rehabilitation of system components;*
- 3. Reduce unnecessary expenses including the cost of unaccountable water;*
- 4. Routinely implement small rate increases rather than waiting several years which will result in large increases;*
- 5. Enhance Communication with our customers through quarterly newsletters;*
- 6. Provide necessary equipment and training to the Town of Blue Creek staff;*
- 7. Work closely with the Green County EDD and other entities through partnerships and possible regionalization opportunities;*
- 8. Meet all federal and state regulatory requirements and provide the best quality of drinking water possible;*
- 9. Further develop financial reserves which may be necessary for future unexpected needs;*

4.0 Financial Plan

The information listed below and on the following pages outlines the current (most recent audited figures) financial condition of the Town of Blue Creek as well as other information regarding major creditors, debt service requirements, reserve fund requirements, procedures for adopting the annual budget, adequacy of current rates and projected rate changes, audit procedures, insurance coverages, growth potential, and future financial challenges.

4.1 Debt Service

Town of Blue Creek has one major creditor, USDA-Rural Development which services two existing loans for the Association. The Association currently pays \$11,235.50 each month toward the retirement of this debt (\$134,826 annually). Funds are withdrawn from the Town's operating account by ACH electronic drafts on the 5th day of each month. USDA-Rural Development requires a debt service reserve of \$63,340 for the first loan (fully funded) and requires monthly payments of \$595.72 for the debt service reserve of the second loan.

4.2 Budget and Audit Procedures

Pursuant to existing loan service agreements with USDA-Rural Development and state law governing Water Associations, Town of Blue Creek is required to prepare and an annual budget prior to the beginning of each fiscal year (June 1). A public hearing must be conducted at least 10 days prior to the adoption of the final budget. State law and loan service agreements also stipulate that a governmental audit be conducted at the conclusion of each year. It is the policy of Town of Blue Creek that the audit be presented to the Board of Aldermen within six months (by November 30) of the end of each fiscal year.

4.3 Insurance Coverage

It is the policy of the Town of Blue Creek Board of Aldermen that appraisals of system components be updated at least once every two years to be used in the specifications for soliciting bids for insurance coverage. Current insurance coverages include the following:

- 4.3.1 Property & Casualty \$1,283,000 (Special Form / Freeze & Vandalism Coverage Included)
- 4.3.2 General Liability \$2,000,000 Aggregate / \$1,000,000 Occurrence (Non-Owned Auto Included)
- 4.3.3 Public Officials Liability \$1,000,000 Aggregate / \$500,000 Occurrence
- 4.3.4 Fidelity \$100,000 (Blanket Employee Crime)
- 4.3.5 Inland Marine \$52,000 (Backhoe, Trailer, and Computer)
- 4.3.6 Workers Compensation – NONE (Not Required with present staffing levels)
- 4.3.7 Commercial Auto Liability – NONE (No Owned Vehicles)
- 4.3.8 Commercial Auto Comprehensive – NONE (No Owned Vehicles)
- 4.3.9 Umbrella Liability Coverage – NONE

4.4 Balance Sheet

**Town of Blue Creek
Balance Sheet
May 31, 2003**

	<u>ASSETS</u>
<u>Current Assets</u>	<u>2003</u>
Cash on Hand and in Bank	\$ 430,762
Accounts Receivable	60,026
Inventory	14,248
Interest Receivable	2,219
Prepaid Expenses	4,982
Total Current Assets	<u>512,237</u>
<u>Fixed Asset</u>	
<i>Land</i>	6,950
<i>Property, Plant & Equipment, at cost</i>	2,915,599
Less: Accumulated Depreciation	(1,628,594)
Total Fixed Assets	<u>1,293,955</u>
<u>Other Assets</u>	
Restricted Reserve Funds	86,660
Total Other Assets	<u>86,660</u>
Total Assets	<u>\$1,892,852</u>
	<u>LIABILITIES AND EQUITY</u>
<u>Current Liabilities</u>	
Accounts Payable	8,432
Current Portion of Long-Term Debt	56,123
Withheld & Accrued Payroll Taxes	3,158
Accrued Interest	13,355
Other Accruals	1,425
Total Current Liabilities	<u>82,493</u>
<u>Long-Term Liabilities</u>	
Meter Deposits	43,504
Long-Term Notes Payable	1,354,061
Less: Current Portion of Long-Term Debt	(56,123)
Total Long-Term Liabilities	<u>1,341,442</u>
<u>Equity</u>	
Dontated Capital (Govt. Grants)	1,76,715
Retained Earnings	(1,307,798)
Total Equity	<u>468,917</u>
Total Liabilities and Net Assets	<u>\$1,892,852</u>

4.5 Income Statement

Town of Blue Creek Income Statement May 31, 2003

	<u>2003</u>	<u>2002</u>
<u>Revenue</u>		
Water Sales	\$ 591,964	\$ 599,460
Contracted Maintenance	69,399	65,631
Misc. Construction & Meter Connections	19,293	10,831
Membership Fees Received	1,200	1,305
Total Revenue	681,856	677,227
<u>Operating Expenses</u>		
Water Purchases	\$ 34,165	19,997
Electricity and Utilities	45,647	40,634
System Repair	13,764	10,151
Service Supplies	61,460	70,555
Testing and Analysis	2,662	2,941
Bad Debt Expense	6,646	2,663
Bank Charges	132	90
Contract Labor	35,545	29,484
Continuing Education	2,913	3,603
Depreciation	112,598	118,338
Fuel and Oil	13,408	11,990
Insurance	40,786	33,702
Legal and Accounting	4,829	5,585
Miscellaneous	4,385	4,294
Office Expense	3,320	3,699
Postage	4,374	4,659
Repairs and Maintenance	11,052	9,347
Retirement Expense	3,464	556
Salaries	142,752	133,147
Taxes and Licenses	16,696	17,482
Telephone	9,701	7,761
Truck Expense	2,094	4,452
Uniforms	2,841	3,226
<u>Total Operating expenses</u>	575,234	538,356
<u>Net Operating (Loss) Profit</u>	106,622	138,871
<u>Other Income and Expenses</u>		
Interest Income	\$ 20,614	\$ 12,230
Gain on Sale of Equipment	13,295	-0-
Interest Expense	(71,671)	(75,113)
<u>Total Other Income & Expenses</u>	(37,762)	(62,883)
<u>Increase in Net Assets from Operations</u>	68,860	75,988

4.6 Cash Flow Statement

Town of Blue Creek Cash Flow Statement May 31, 2003

<i>Cash Flows from Operating Activities</i>		
<i>Change in Net Assets</i>	<u>\$ 68,860</u>	<u>\$ 75,988</u>
 <i>Adjustments to reconcile change in net assets to net cash</i>		
Provided by operating activities:		
Depreciation	112,598	118,338
Gain on Sale of Equipment	(13,295)	-0-
(Increase) Decrease in Accounts Receivable	(7,484)	(7,395)
(Increase) Decrease in Prepaid Expenses	1,188	(1,485)
(Increase) Decrease in Interest Receivable	1,936	(3,053)
(Increase) Decrease in Inventory	(518)	6,938
Increase (Decrease) in Accrued Expenses	(1,658)	870
Increase (Decrease) in Payroll Tax Liabilities	(862)	624
Increase (Decrease) in Accrued Interest	(1,791)	10,243
Increase (Decrease) in Other Accruals	(104)	28
Increase in Meter Deposits	<u>3,115</u>	<u>3,180</u>
Total Adjustments	<u>93,125</u>	<u>128,288</u>
 Net Cash Provided by Operating Activities	 <u>161,985</u>	 <u>204,276</u>
 <i>Cash Flows from Investing Activities</i>		
Purchase of Property and Equipment	(68,732)	(19,857)
Sale of Property and Equipment	<u>26,400</u>	<u>-0-</u>
 Net Cash Provided by Investing Activities	 (42,332)	 (19,857)
 <i>Cash Flows from Financing Activities</i>		
Retirement of Long-Term Debt	(63,155)	(37,106)
 Net Cash Provided by Financing Activities	 (63,155)	 (37,106)
 <u>Net Increase in Cash</u>	 <u>56,498</u>	 <u>147,313</u>
Cash Balance, Beginning of Year	<u>460,924</u>	<u>313,611</u>
 Cash Balance, End of Year	 <u>\$ 517,422</u>	 <u>\$ 460,924</u>

4.7 Rate Structure / Changes

Existing Rate Structure: As reflected in the Town of Blue Creek FY2003 audit, the existing water rate structure provided only \$458.42 in cash flow (which calculates into a 1.0 Operating Ratio). Note that MSDH requires an operating ratio of 1.10. This fact contributed to a lower Annual Capacity Rating this past year. The current monthly cost per hundred gallons is 0.28 which is only 57% of the state EDU average of 0.49 per hundred. The existing average monthly water bill is \$14.83.

Proposed Rate Increase: By increasing the minimum rate by \$1.00 to \$10.00 and by adopting a unit flow rate of \$1.75, this new rate would represent an overall increase of 22.3% in the average monthly charge per customer from \$14.83 to \$18.14. Reflected over the five-year term of this rate, this would represent an annual increase of 4.5%.

5-Year Operating Forecast (with proposed new rates)

	Year Ending 2004	Year Ending 2005	Year Ending 2006	Year Ending 2007	Year Ending 2008
Projected Revenues					
Water Sales	\$203,677	\$211,564	\$212,886	\$214,217	\$215,556
Other Income	\$ 22,929	\$ 23,817	\$ 23,966	\$ 24,116	\$ 24,267
Total Projected Revenues	\$226,606	\$235,381	\$236,852	\$238,333	\$239,822
Projected Expenses					
Fixed Expenses	\$ 95,621	\$ 95,621	\$ 95,621	\$ 95,621	\$ 95,621
Variable Expenses	\$ 98,028	\$101,459	\$105,010	\$108,685	\$112,489
Total Projected Expenses	\$193,649	\$197,080	\$200,631	\$204,306	\$208,110
Projected Income (Loss)	\$ 32,957	\$ 38,301	\$ 36,221	\$ 34,026	\$ 31,712
Projected Fund Balance	\$266,419	\$304,720	\$340,942	\$374,968	\$406,680
Operating Ratio	1.17	1.19	1.18	1.17	1.15

5.0 Capital Improvements Plan

The following plan projects Town of Blue Creek's Water System Infrastructure Needs. A matrix listing the projected mitigation completion dates is listed in Appendix C. The following needs that are used in this plan and their corresponding definitions are listed below (in order of priority with the highest prioritized need listed first):

Urgent Needs – Those needs that should be addressed as soon as possible and that have a high probability of impacting public health, critical components of the water system, or other processes or procedures which if neglected could negatively impact the financial capacity of the water system.

Critical Needs – Those needs that should be addressed after Urgent Needs are mitigated and that may impact public health, critical components of the water system or compliance with federal and state drinking water regulations.

Other Needs – Those needs that should be addressed after Urgent and Critical Needs are mitigated and that have a low probability of impacting public health, critical components of the water system, or compliance with federal and state drinking water regulations.

Recurring Needs – Those needs that may be prioritized as Urgent, Critical, or Other and that should be anticipated to occur or recur at least twice during the term of the plan.

Note: It is important to remember that the initial prioritization of these needs is subject to change. An "Other Need" may evolve into a Critical or Urgent Need just as a Critical Need may become an Urgent Need.

5.1 Source Water & Auxiliary Source Needs

Wells - [RECURRING CRITICAL NEED] It has been recommended that pumping test be performed by a reputable well contractor on each of the Town's two water wells each year. Information obtained from these tests will be reviewed by the Board of Aldermen with the Public Works Superintendent and additional preventive or corrective maintenance will be determined if needed. It is anticipated that at least one of the pumps may need extensive work within the next ten years. It is estimated that the cost of this maintenance can range up to \$35,000. This is considered a Recurring Need and can be expected at least once every 15 years. Existing financial reserves or financial assistance through the Mississippi Development Authority, USDA – Rural Development, and / or the Mississippi Local Governments and Rural Water Systems Improvements Board will be used to pay for this anticipated maintenance. Routine annual well pumping tests will be budgeted as a normal operational expense each year.

Auxiliary Source - [URGENT NEED] While it is anticipated that the Franklin County Water Association will procure its own water supply to serve its satellite West Town of Blue Creek System (PWS ID# 190002), it is not known at this time whether this well will have the capacity to serve Town of Blue Creek through the existing purchase-water connection during emergency conditions or power outages. Because MSDH requires that public water systems maintain at least a 20psi minimal pressurization, it has been recommended that the Association acquire an emergency generator(s) capable of running at least one of the water wells, the treatment plant, and the service pumps during such an emergency. The costs associated with the procurement and installation of a generator and automatic transfer switch can exceed \$25,000. Existing financial reserves or financial assistance through the Mississippi Development Authority, USDA – Rural Development, and / or the Mississippi Local Governments and Rural Water Systems Improvements Board will be used to pay for this anticipated maintenance.

5.2 Water Treatment Needs

Filtration – [RECURRING CRITICAL NEED] It is anticipated that at least one of the filters will need to have its filter media changed-out within the ten-year term of this plan. The cost of this routine maintenance can range up to \$25,000 or more. This is considered a Recurring Need and can be expected at least once every 15 years. Existing financial reserves or financial assistance through the Mississippi Development Authority, USDA – Rural Development, and / or the Mississippi Local Governments and Rural Water Systems Improvements Board will be used to pay for this anticipated maintenance.

Aeration – [RECURRING CRITICAL NEED] The motors on the Induced Draft Aerators will eventually require some maintenance (or replacement). Additionally, the Aerator trays periodically need to be pressure-washed and cleaned. The costs of this preventative maintenance is minimal and should be budgeted for at least once during the ten-year term of this plan.

Corrosion Control – [OTHER NEED] It has been recommended that the Association consider switching to lime (instead of soda ash) due to the fact that the optimal pH would be reduced to around 7.0 and that the operational costs would be significantly reduced. Note that capital cost associated with the installation of a lime treatment plant are considerable and that this should only be considered after consultation with a professional engineer and if financial assistance is available to include this in a capital improvements project. If the optimal pH parameters increase or if the raw water pH significantly drops, the ability to comply with corrosion control optimization standards may be negatively impacted. In this event, the Public Works Superintendent should seek technical assistance from the MSDH Regional Engineering Services Branch for guidance and advice which may include the recommendation to procure phosphate injection equipment. The costs of this would be less than \$5,000 and may be paid for by the existing reserves, budget, or financing by the Mississippi Local Governments and Rural Water Systems Improvements Board or by the Community Loan Fund.

Disinfection – [CRITICAL NEED] It has been recommended that the Association consider the installation of an automatic switch-over chlorination system which will further insure disinfection of the Town's finished water supply. MSDH requires a minimal 0.5 mg/l free chlorine residual. While the Town's current disinfection treatment system does not have a problem achieving this benchmark requirement normally, if the chlorine cylinder runs out before a manual change-over, the Association risks microbial and viral contamination and waterborne disease outbreaks not to mention non-compliance with MSDH regulations and the TCR Rule. The Association should consider this only after consultation with a professional engineer and with the MSDH Regional Engineering Services staff. The costs associated with this capital improvement can range up to \$7,000 or more and may be paid for by the existing reserves, budget, or financing by the Mississippi Local Governments and Rural Water Systems Improvements Board or by the Community Loan Fund.

5.3 Water Storage & Pressurization Needs

Elevated Water Storage Tank – [RECURRING URGENT NEED] MSDH recommends that all steel water storage tanks be cleaned and inspected on a regular basis and painted as necessary. After five years of the most recent tank painting, it has been recommended that the tank be inspected for paint coating failure, corrosion, rust, and structural integrity annually. It is anticipated that within the ten-year term of this plan that the elevated water storage tank will need to be cleaned at least twice and painted once. The costs associated with inspecting and cleaning is minimal and should be considered normal preventative maintenance and may be paid for by existing budgeted revenues. While tank painting is also routine and necessary at least once every 10 – 15 years (depending on environmental conditions and quality of paint and workmanship), this expense can be expected to cost \$35,000 or more. The Association should consider painting its elevated water storage tank only after consultation with a professional engineer's inspection of the tank. The costs associated with this routine maintenance can not normally be paid for by grant funds and as a result the Association is limited to using existing reserves or loan financing through by the Mississippi Local Governments and Rural Water Systems Improvements Board or by the Community Loan Fund.

Service Pumps – [RECURRING CRITICAL NEED] Routine pump preventative maintenance is essential to the efficient operation of the Town's two service pumps. Such maintenance includes replacing packing, greasing and lubrication, and the replacement of pressure gauges. It is anticipated that at least one of the pumps will need to be replaced during the ten-year term of this plan. The costs associated with service pump replacement is minimal and should be considered normal preventative maintenance and may be paid for by existing budgeted revenues.

5.4 Water Distribution System Needs

Hydraulic Analysis and Mapping – [URGENT NEED] It is not known when the last hydraulic analysis for Town of Blue Creek was compiled. Due to the fact that this is essential to understanding the hydraulic needs and deficiencies of the distribution system, it has been recommended that the Association consult with a professional engineer within the next year to begin this process of surveying the system and completing this analysis. The cost of this service may exceed \$10,000 and can be paid for by existing reserves, financed by the engineer, or paid by financing through the Community Loan Fund. It is also an Urgent Need that the Town's existing distribution system be mapped out to include the sizes and types of lines, valves, meters, and fire hydrants. Much of this can be completed by the Public Works Superintendent with no-cost or low-cost technical assistance from outreach organizations including Community Resource Group, MsRWA, Southwest Mississippi PDD, and the MSU-Extension CRD division. Eventually, a professional engineer will need to incorporate this information for the development of a set of as-built Mylar drawings. All maps and hydraulic analyses should be considered confidential data and safeguarded by Town of Blue Creek and be used only by its operational staff and consultants for the purpose of operating the system and planning capital improvements.

Meter Replacements – Validity Testing – [RECURRING CRITICAL NEED] It has been recommended that Town of Blue Creek routinely validate the accuracy of its consumer water meters as with time, these meters will register less water than what actually passes through the meter. A routine meter testing / change out schedule should be adopted so that every meter will be validated at least once during a five-year period. Because there has not been a routine procedure of testing and changing out meters in the past, it is anticipated that at least 25% of the Town's consumer water meters may need to be replaced. While the costs associated with this should be considered routine maintenance, because this maintenance has been deferred, it may cost as much as \$3,000. This should be paid for out of the Town's reserves or budget and if necessary can be financed by the Mississippi Local Governments and Rural Water Systems Improvements Board or by the Community Loan Fund.

Water Main Valves – [RECURRING OTHER NEED] It has been recommended that Town of Blue Creek routinely exercise water main valves and clean valve boxes. All valves should be located, marked, and identified on system maps. It is anticipated that at least one valve every year will need to be replaced. This normal operational cost is minimal and should be paid for by existing budgeted revenues.

Fire Hydrants / Flush Plugs – [RECURRING OTHER NEED] It has been recommended that Town of Blue Creek routinely exercise and lubricate fire hydrants and flush plugs. All fire hydrants and flush plugs should be located, marked, and identified on system maps, and periodically painted. It is anticipated that at least one fire hydrant or flush plug will need to be replaced every year. This normal operational cost is minimal and should be paid for by existing budgeted revenues.

Water Mains – [CRITICAL NEED] Due to the fact that Town of Blue Creek has a wide variety of water main materials and some substandard sizes, it has been recommended that Town of Blue Creek consult with a professional engineer to develop a plan to replace the older cast iron and asbestos cement pipes in addition to the installation of larger lines where substandard sizes exists. Because the costs associated with such a project will be considerable, financial assistance must be obtained. Grant funds can be obtained through the Mississippi Development Authority and the USDA-Rural Utilities Service. Loan funds can be obtained through the same agencies and the Mississippi Local Governments and Rural Water Systems Improvements Board. Interim financing may be obtained through the Community Loan Fund.

5.5 Electrical Control System Needs

There are no significant deficiencies known to exist with the water system's electrical control system. However, integration of this system with the auxiliary power generator(s) and transfer switch will be necessary in addition to normal routine maintenance and replacement of electrical control components. This is a recurring need and should be paid for by existing budgeted revenues.

Current Year Capital Improvements Checklist

August 1, 2003

(Date*)

Appendix A Immediate Facility Needs to be Addressed This Year:

System Component	Recommended Corrective Action	Needed? (Check if Yes)	Date Completed
Water Source & Auxiliary			
Well Pumping Tests	Annual Pumping Tests	X	
Well Pump Repair-Replacement	Once Every 15 Years		
Auxiliary Tie-In to other PWS	Connect to other PWS for Auxiliary Source	X	
Auxiliary Power	Generator(s) for Treatment Plant, Wells, and Pumps	X	
New Water Well Development	If System exceeds 90% Design Capacity		
Water Treatment			
Aerator Cleaning	10 – 15 year max		
Lime Feeder			
Chlorinator			
Ejector			
Chlorine Booster Pump			
Other Treatment Equipment			
Storage & Pressurization			
Tank(s) Inspection	(5-year max)	X	
Tank Cleaning	As Necessary per Tank Inspection		
Tank Painting	As Necessary per Tank Inspection (Max 15-years)		
New Storage Tanks			
Booster Pump(s) Replacement			
Distribution System			
Hydraulic Analysis	As Necessary (At least Once every 15-years)	X	
Mapping	As Necessary (Update at least Once every 5-years)	X	
Consumer Meter Testing	As Necessary (At least Once every 5-years)	X	
Consumer Meter Replacement	As Necessary (Depending on Validity Tests)	X	
Valve Replacement	As Necessary	X	
Hydrant / Plug Replacement	As Necessary	X	
Main Line Upgrades	As Necessary (Excessive Leaks – Substandard Pipes)		
Electrical Controls			
Replacement of Flow Level Probes	As Necessary (5-year max)		
Replacement of Hour Meters	As Necessary	X	
New Electrical Controls			

Signature of Board President

Signature of Board Secretary

**Complete this Checklist Each Year by reviewing your 10-Year plan and scheduled CIP Needs. Keep this record in your permanent file as an attachment to your Comprehensive Business Plan.*

Current Year Capital Improvements Checklist

(Date*)

Appendix A Immediate Facility Needs to be Addressed This Year:

System Component	Recommended Corrective Action	Needed? (Check if Yes)	Date Completed
Water Source & Auxiliary			
Well Pumping Tests	Annual Pumping Tests		
Well Pump Repair-Replacement	Once Every 15 Years		
Auxiliary Tie-In to other PWS	Connect to other PWS for Auxiliary Source		
Auxiliary Power	Generator(s) for Treatment Plant, Wells, and Pumps		
New Water Well Development	If System exceeds 90% Design Capacity		
Water Treatment			
Aerator Cleaning	10 – 15 year max		
Lime Feeder			
Chlorinator			
Ejector			
Chlorine Booster Pump			
Other Treatment Equipment			
Storage & Pressurization			
Tank(s) Inspection	(5-year max)		
Tank Cleaning	As Necessary per Tank Inspection		
Tank Painting	As Necessary per Tank Inspection (Max 15-years)		
New Storage Tanks			
Booster Pump(s) Replacement			
Distribution System			
Hydraulic Analysis	As Necessary (At least Once every 15-years)		
Mapping	As Necessary (Update at least Once every 5-years)		
Consumer Meter Testing	As Necessary (At least Once every 5-years)		
Consumer Meter Replacement	As Necessary (Depending on Validity Tests)		
Valve Replacement	As Necessary		
Hydrant / Plug Replacement	As Necessary		
Main Line Upgrades	As Necessary (Excessive Leaks – Substandard Pipes)		
Electrical Controls			
Replacement of Flow Level Probes	As Necessary (5-year max)		
Replacement of Hour Meters	As Necessary		
New Electrical Controls			

Signature of Board President

Signature of Board Secretary

**Complete this Checklist Each Year by reviewing your 10-Year plan and scheduled CIP Needs. Keep this record in your permanent file as an attachment to your Comprehensive Business Plan.*

Ten-Year Capital Improvements Master Checklist

From August 1, 2003 To June 30, 2014
(Year 1 of CIP) (Year 10 of CIP)

**Appendix B
Capital Needs to be Addressed within 10-Years:**

System Component	Recommended Corrective Action	Needed? (Check if Yes)	Date Completed
Water Source & Auxiliary			
Well Pumping Tests	Annual Pumping Tests	X	
Well Pump Repair-Replacement	Once Every 15 Years	X	
Auxiliary Tie-In to other PWS	Connect to other PWS for Auxiliary Source		
Auxiliary Power	Generator(s) for Treatment Plant, Wells, and Pumps	X	
New Water Well Development	If System exceeds 90% Design Capacity		
Water Treatment			
Gravity Filter(s)	Media Replacement (10-year max)	X	
Filter Painting / Cleaning	10 – 15 year max		
Aerator Cleaning	10 – 15 year max	X	
Lime Feeder		X	
Soda Ash Pump		X	
Phosphate Pump		X	
Chlorinator		X	
Ejector		X	
Chlorine Booster Pump		X	
Other Treatment Equipment			
Storage & Pressurization			
Elevated Tank(s) Inspection	(5-year max)	X	
Tank Cleaning	As Necessary per Tank Inspection	X	
Tank Painting	As Necessary per Tank Inspection (Max 15-years)	X	
New Storage Tanks			
Booster Pump(s) Replacement		X	
Distribution System			
Hydraulic Analysis	As Necessary (At least Once every 15-years)	X	
Mapping	As Necessary (Update at least Once every 5-years)	X	
Consumer Meter Testing	As Necessary (At least Once every 5-years)	X	
Consumer Meter Replacement	As Necessary (Depending on Validity Tests)	X	
Valve Replacement	As Necessary	X	
Hydrant / Plug Replacement	As Necessary	X	
Main Line Upgrades	As Necessary (Excessive Leaks – Substandard Pipes)	X	
Electrical Controls			
Replacement of Flow Level Probes	As Necessary (5-year max)	X	
Replacement of Hour Meters	As Necessary	X	
New Electrical Controls		X	

Signature of Board President

Signature of Board Secretary

**Complete this Checklist Every Ten Years by reviewing previous 10-Year plans and scheduled CIP Needs. Keep this record in your permanent file as an attachment to your Comprehensive Business Plan. At the completion of the ten-year term, you will need to update your entire plan with current information.*

Capital Improvements Plan Prioritization Matrix

Appendix C

System Component	Identified Need	Need Prioritization	Recurring?	Year(s) To Complete	Financing Needed?	
Auxiliary Power	Installation of Generator(s) & Transfer Switch	Urgent	Urgent	No	2004	Probably
Hydraulic Analysis		Urgent	Urgent	Yes	2004	Probably
Mapping		Urgent	Urgent	Yes	2004	No
Elevated Tank(s) Inspection		Urgent	Urgent	Yes	Annually until painted	No
Tank Cleaning		Critical	Critical	Yes	2004	No
Tank Painting		Critical	Critical	Yes	2008	Probably
Main Line Upgrades		Critical	Critical	No	2008	YES
Chlorinator	Replacement – Rebuild	Critical	Critical	Yes	2005 (projected need)	No
Ejector	Replacement – Rebuild	Critical	Critical	Yes	2005 (projected need)	No
Chlorine Booster Pump	Replacement	Critical	Critical	Yes	2005 (projected need)	No
Aerator	Cleaning and Replacement of Force Draft Fans	Critical	Critical	Yes	2006 (projected need)	No
Well Pump Repair-Replacement	Pump Maintenance Replacement	Critical	Critical	Yes	2008 (projected need)	Probably
Soda Ash Pump	Replacement	Critical	Critical	Yes	2008 (projected need)	No
Gravity Filter(s)	Media Replacement	Critical	Critical	Yes	2010 (projected need)	Probably
Well Pumping Tests	Annual Pumping Tests	Critical	Critical	Yes	Annually (Each Year)	No
Consumer Meter Testing		Critical	Critical	Yes	Annually (Each Year)	No
Consumer Meter Replacement		Critical	Critical	Yes	As Necessary	No
Flow Level Probes	Cleaning - Replacement	Other	Other	Yes	2004	No
Hour Meters	Replacement	Other	Other	Yes	2004	No
New Electrical Controls		Other	Other	Yes	2004	No
Lime Feeder	Installation	Other	Other	No	2006	No
Phosphate Pump	Installation	Other	Other	No	2006	No
Gravity Filter(s)	Painting/Cleaning	Other	Other	Yes	2010 (projected need)	No
Valve Replacement		Other	Other	Yes	As Necessary	No
Hydrant / Plug Replacement		Other	Other	Yes	As Necessary	No

6.0 Annual Budget

**Town of Blue Creek
Annual Budget
For the Year Ending May 31, 2004**

2004

Revenue

Water Sales	\$ 594,000
Contracted Maintenance	71,000
Misc. Construction & Meter Connections	20,000
Membership Fees Received	<u>1,200</u>
Total Revenue	<u>697,000</u>

Operating Expenses

Water Purchases	\$ 36,000
Electricity and Utilities	47,000
System Repair	15,000
Service Supplies	63,000
Testing and Analysis	2,800
Bad Debt Expense	6,500
Bank Charges	150
Contract Labor	37,000
Continuing Education	3,500
Depreciation	112,598
Fuel and Oil	17,000
Insurance	42,000
Legal and Accounting	5,000
Miscellaneous	5,000
Office Expense	3,500
Postage	4,800
Repairs and Maintenance	13,000
Retirement Expense	4,000
Salaries	150,000
Taxes and Licenses	18,000
Telephone	11,000
Truck Expense	2,500
Uniforms	<u>3,000</u>
<u>Total Operating expenses</u>	<u>602,348</u>
Net Operating (Loss) Profit	94,652

Other Income and Expenses

Interest Income	\$ 23,000
Gain on Sale of Equipment	-0-
Interest Expense	<u>(69,741)</u>
Total Other Income & Expenses	<u>(46,741)</u>

Increase in Net Assets from Operations 47,911

ORDINANCE NUMBER _____

An ordinance establishing definitions, policies, charges and rates for the water system for the city/town of _____ *(city/town)* _____, Mississippi.

Be it ordained by the Mayor and Board of Alderman of the of the _____ *(city/town)* _____ of Mississippi, as follows:

ARTICLE I.

DEFINITIONS

The following words and terms when used in this ordinance are intended to mean and shall mean as follows to wit:

City/town shall mean the city/town of _____ *(city/town)* _____, Mississippi.

Customer shall mean the owner of the property served by a water connection, or tenant, lessee, renter, establishment or occupant of such property, or the person in or against whose name the water connection for such property is listed on the books and records of said city/town, and who is responsible to said city/town for payment of bills for water furnished to such property and for use by such property of the public water system of said city/town, either or both.

Consumer shall mean any person, establishment, or unit or space served on or through any water meter other than the customer in whose name the meter is listed or from whom payment may be required.

Gender shall be extended and be applied to females and firms, partnerships and corporations as well as to males.

Shall is mandatory; *May* is permissive.

ARTICLE II.

SERVICE AND CONNECTIONS

Section ____ Application required for service.

All persons desiring water service shall file a written application with the _____ *(department/office)* _____. Such application shall be signed by the owner of the property to be served or his duly authorized agent and shall state the purposes for which the water is to be used and all other facts and information as the _____ *(department/office)* _____ requires. Such applicant shall agree in writing to abide by all existing or future ordinances, regulations, and rules or provisions of this chapter and the _____ *(department/office)* _____, and the applicant shall pay the fees and deposits as prescribed at the time of filing such application.

Section ____ Using water without proper application prohibited.

Should any person move into premises or buildings and find the water supply turned on without having been applied for by him, he shall immediately report the fact to the _____ *(department/office)* _____ for attention and correction. Use of the water without making proper application for same subjects the violator to prosecution.

Section ____ Delinquent using name of another to obtain water prohibited.

Water shall not be supplied to any premises, either directly or indirectly, when the occupancy is in arrears at the place then occupied. This section is intended to prevent the use of another's name, by subterfuge, in order to obtain a water supply by a delinquent.

Section ____ Supplying water to sub-lessee when original tenant in default prohibited.

Water shall not be turned on or supplied for a sub-lessee of any premises when the original tenant is in default for water supplied to the same premises so long as the premises or any part thereof are occupied by the person in default.

Section ____ Water service connections – Authorization to make connections.

All connections to the water lines, and extensions thereof, shall be made by employees of the (department/office) or the designees of the city/town, except for extensions or installations of unusual magnitude which may require materials, skill or equipment not possessed by or otherwise available to the (department/office) or the city/town, but in such cases such work must be done under the supervision of the (municipality personnel) of the (department/office) or his authorized representative or designee.

Section ____ Water service connections - Size.

The size of the service connection or tap on any water main shall be governed by the use indicated in the original written application therefore. No connection or tap shall be made to any water main without the written consent of the (municipality personnel) or his authorized representative or designee.

Section ____ Water service connections - Separate connection required for each premises.

Each premises shall be required to have a separate connection to the water main so that service to the premises can be discontinued without affecting any other customer; and, in case any property owner shall have divided his premises so that two or more customers can be serviced through one connection to the water main, he shall provide a proper shutoff valve for each separate connection so that service may be discontinued to one customer without affecting any other, and all such shutoff valves shall be so arranged or installed that they can only be operated by employees of the (department/office) or by authorized bonded plumbers.

Section ____ Extension of lines.

Cost borne by city/town. The (department/office) will hereafter extend, lay or construct all necessary and feasible water mains to serve any given lot or tract of land a distance of (number) feet or less including the front footage of the lot or tract of land to be served.

Cost borne by applicant.

- (a) Where the property for which any person desires water connections is located more than (number) feet, including the front footage of the lot or tract of land for which the service is desired, from existing water mains, the (municipality personnel) of the (department/office) or his authorized representative or designee shall specify the size and type of pipe to be laid and cause an estimate to be made of the total cost of the extensions.
- (b) The Mayor and Board of Aldermen, in its discretion, may waive all or part of such costs upon finding and declaring that such extension beyond the distance of (number) feet will:
 - (1) Improve and enhance the city/town's water system; or
 - (2) Promote the health, safety and welfare of the residents within the area of the extension or within the city/town or general; or
 - (3) Extend the system into an area having been annexed into the city/town; or
 - (4) Improve and enhance the potential of the area into which the extension is made for its development for business, economic, commercial or industrial purposes; or
 - (5) Any combination of the foregoing.
- (c) In the event the costs of making such extension are not waived in whole or in part, it is hereby declared to be the policy of the city/town that the costs assessed shall be the minimum amount required to extend the system and maintain it adequately without unnecessary costs for a design or for materials which are beyond the needs of any adequate system operating in a good and satisfactory manner.

Section ____ Installation of lines in streets.

No water mains, lines or connections shall be installed in or under the streets of the city/town other than by the _____ (*department/office*) _____ unless special permission is obtained, in writing, signed by the _____ (*municipality personnel*) _____ of the _____ (*department/office*) _____ or his authorized representative or designee; provided, however, if another ordinance of the city/town requires such water mains, lines or connections to be installed by a builder, contractor or subdivider, the provisions of that ordinance shall be followed with respect to the party responsible for the installation of the mains, lines or connections.

Section ____ Meters - Ownership.

All meters and their several parts hereafter installed by the _____ (*department/office*) _____ or its representatives or designees will remain or become the property of the _____ (*department/office*) _____.

Section ____ Meters - Separate meter required for each premises.

A separate water meter shall be required for each individual premises, house, lot or subdivision thereof, except auxiliary premises or buildings upon the main premises, lot or subdivision thereof which auxiliary building or premises is controlled by the occupant of the main building or premises; but, if such auxiliary building or premises constitutes a complete living unit, including kitchen facilities, such auxiliary building or premises shall be provided with a separate meter and separate connection to the water main.

Section ____ Meters - Obstructing.

It shall be unlawful for any person to obstruct any water meter of the city/town with any lumber, brick, wood, dirt or other building material or with any ashes, paper, trash, grass or vegetation, rubbish or substance of any kind.

Section ____ Meters - Failure.

Whenever, for any cause, a water meter fails to operate, a reasonable estimate shall be made by the _____ (*municipality personnel*) _____ or his authorized representative or designee with his final approval, of the amount of water supplied during the period such meter fails to operate based on whole or in part on the estimated amount of water supplied.

Section ____ Meters - Testing.

The city/town will at its own expense make periodic tests and inspections of its water meters in order to maintain a high standard of accuracy. The city/town will make additional tests or inspections of its meters at the request of a customer. However, if such tests show that the meter is accurate within _____ (*number*) _____ percent (high or low), no adjustment will be made in the customer's bill, and a test fee in accordance with the town's current rate schedule will be added to the customer's bill. In case the test shows the meter to be in excess of _____ (*number*) _____ percent high, an appropriate adjustment shall be made in the customer's bill over a period of not more than _____ (*number*) _____ days prior to the date of such test and replacement of meter, and there shall be no charge for the meter test.

Section ____ Meters - Reading checks.

There shall be no charge for meter reading checks if an error in reading is detected. In addition, each customer shall be entitled to _____ (*number*) _____ free reading check(s) per calendar year where no error is detected. There shall be no carry over from year to year for unused free reading checks.

Section ____ Authority to shut off water in emergencies.

The water supply to all of the city/town may be shut off by the _____ (*department/office*) _____ at any time the necessity may arise, or any shutoff may be confined to a smaller area of the city/town, governed by the location of the valves. Employees of the _____ (*department/office*) _____ shall, promptly after determining the need to implement the shutoff, make every reasonable and appropriate effort to notify all consumers affected by a shutoff to advise the consumer of the shutoff and to advise the consumer to take necessary steps to provide a temporary water supply and adopt safety measures; such notice may be made by personal contact or by leaving notice stops, either to prevent

freezing or for any other purpose. This prohibition shall not apply to opening faucets, cocks or stops if so recommended or required by the city/town in response to weather or other conditions if so done according to the time limitations and conditions suggested or required by the city/town.

The city/town may impose restrictions or limitations on the amount of water allowed to be consumed or used and/or the purposes for which water is allowed to be consumed or used in all or part of the city/town. Such restrictions or limitations shall be reasonable under the circumstances. Timely and appropriate notice of such restrictions or limitations shall be given to all consumers subject to the restrictions or limitations. Such notice may be made by personal contact or by leaving notice on the door of the most appropriate entryway to the residence, office or structure if within a limited area or through the media if affecting a larger area of consumers. The notice shall include a statement of the restrictions and limitations and the penalty for violation thereof.

Section ____ Transfers.

No person shall be entitled to transfer his water service from one location to another, except as herein set forth. When premises are vacated, or the use thereof discontinued by a water customer, he shall pay his bill in full for the old location and make all necessary arrangements for the new cut-in before being entitled to any further water service, and the customer shall pay a fee of \$____ (*dollars*) for transfer of water service from one location to another. Relocation, at the request of an owner or customer, of a water meter, connection or tap on the same property shall require payment of a charge determined from time to time as reflected on the official minutes. No person shall be entitled to a water cut-in or to water service at any location if her is in arrears for water service rendered at that or any other location.

Section ____ Disconnection of service - Voluntary.

Any person who applies for and obtains water service at a particular location, or upon any premise and who desires to discontinue the use of such water at any such place shall notify the _____ (*municipality personnel*), in writing, of the time when the use of the water by him will be discontinued. In the event of the failure to give such notice, such person shall remain and be liable for any and all water used at the location until the _____ (*municipality personnel*) shall acquire actual personal knowledge that the person who so applied for such water at the location has discontinued use thereof.

Section ____ Discontinuance of Service - Temporary.

Customers wishing to have their water service cut off for a temporary time may do so; either by paying the monthly minimum plus sewer charge, if any, or by paying a turn-on fee of \$____ (*dollars*) plus sale tax if applicable.

Section ____ Turning on water after service disconnected.

No person, not authorized by the _____ (*department/office*), shall turn on the water supply after it has been shut off by the _____ (*department/office*) for nonpayment.

Section ____ Resale of Water Prohibited.

All purchased water service (other than emergencies or standby service) used on the premises of a customer shall be supplied exclusively by the city/town, and the customer shall not directly or indirectly sell, sublet, assign, or otherwise dispose of the water service, or any part thereof unless authorized by the city/town through Board minutes.

Section ____ Supplying free water prohibited.

No free water shall be furnished to any user.

Section ____ Stealing water prohibited.

No person shall be allowed to take and carry away water from any public school fixtures, public buildings, ground, parks or fountains thereof unless authorized by the city/town through Board minutes. It shall be the duty of all city/town employees to report promptly any infraction of this section to the police or the _____ (*department/office*).

Section ____ Using water for unauthorized purposes prohibited.

No consumer shall use, or permit to be used, water from the city/town's system except for the purposes stated in the application, nor shall he supply water to any nonconsumer for any purpose without a written permit, which permit shall state for what purpose the water is to be used and for how long. The consumer shall not permit nonconsumers to use the hose attachments, nor leave them exposed for use by nonconsumers even though the water supply comes through a meter. A violation of this section may subject the offender to a discontinuance of the water supply and to penalties otherwise provided.

Section ____ Tampering with or obstructing city/town-owned equipment.

(a) No person, except the employees of the ____ (*department/office*) ____, the fire and life safety division, or the public safety department, and those to whom the ____ (*municipality personnel*) ____ of the ____ (*department/office*) ____ may grant special permission, shall tamper with, make connections to or otherwise use or operate the fire hydrants, meters, locks or any other city/town-owned equipment associated with, or attached to, the water system, and no person shall place or install or cause to be placed or installed any thing or object which will impede free access to fire hydrants or meters, but a distance of not less than ____ (*number*) ____ feet shall be clear entirely around each of such hydrants and meters.

(b) If any person tampers with, makes connections to or otherwise uses or operates the fire hydrants, meters, locks or any other city/town-owned equipment associated with, or attached to, the water system, that person shall be charged a fee of not less than \$ ____ (*dollars*) nor more than \$ ____ (*dollars*), plus the actual cost required to repair the damaged equipment and to compensate the city/town for any related harm or loss caused by the tampering.

Section ____ Right of Access.

Municipality employees shall have access to customer's premises at all reasonable times for the purposes of reading meters, testing, repairing, removing or exchanging any or all equipment belonging to the municipality

Section ____ Inspections.

The municipality shall have the right to, but shall not be obligated, to inspect any installations before water is introduced or any later time as to a possible cross connection or any conditions detrimental to its present or future customers and reserves the right to disconnect any service until the potential hazard has been remedied.

ARTICLE III.

USER CHARGES AND RATES

Section ____ Deposits.

Any water customer or consumer shall not be entitled to any water service or supply unless and until such person makes a meter deposit with the municipality as follows, to wit:

- (a) All residences: \$ ____ (*dollars*) per family unit.
All rental and commercial property: \$ ____ (*dollars*) per unit.
- (b) For a ____ (*number*) inch tap or larger, a meter deposit shall be required on advance, in such amount as shall be determined from time to time as reflected in the official minutes of the city/town.
- (c) The size of the meter installed shall be determined by the ____ (*municipality personnel*) ____, who shall give consideration to the estimated consumption and use of water by the respective customer and consumer. Any deposit made shall not bear interest but shall be refunded after termination of the water service and supply and after the payment of all sums due for water theretofore furnished. The making of any such deposit shall not affect the right of the municipality to discontinue water service for non-payment of the charge and bill therefore. However, in the event of any non-payment, the municipality may cut off and discontinue the services if the charges or statement remain in default for more than (number) days after the date of the statement.

- (d) The municipality may, at its option, apply any such deposits toward payment of any amount due the municipality for water theretofore furnished.
- (e) Any and all water meters installed by the municipality shall remain the exclusive property of the municipality.

Section ____ Connection fees.

Each customer of the water system requiring that a new tap be made for connection to the town water system, shall pay in advance of any tap being made, non-refundable tapping fees for the new tap according to the following schedule:

- (a) For each residential or commercial connection within or without the corporate limits for a (number) inch meter \$ (dollars).
- (b) For each residential or commercial connection within or without the corporate limits for a water meter in excess of (number) inch, an amount of money equal to the cost of the water meter and all other materials necessary to make the connection from the water system of the city/town to the customer's water service line.

Section ____ Connection fees – Developers.

A charge (Developer's Connection Charge) shall be assessed to any party, developer or otherwise, including but not limited to developers constructing subdivisions of record, industrial parks, large commercial or industrial enterprises, mobile home parks, apartment complexes, condominiums, and other similar property improvements to which all facilities required to serve the premises have been installed by the developer. This charge is intended to represent each consumer's pro rata part of the supply base, which included the wells, tanks, and large distribution mains. This amount is in addition to the cost of providing service to the development and the cost of the extension of the water main, if necessary, to the nearest property boundary, which cost shall be paid by the developer.

The developer's connection charge shall be \$ (dollars) for each residential consumer or equivalent thereof joined to the system. This charge shall be paid by the developer prior to acceptance of any distribution system by the city/town.

In the event that the developer pays for the construction or improvements to the city/town's water system, which are not located within the development, but which are necessary to provide service to the development, the Mayor and Board of Alderman may waive payment of the developer's connection charge or any portion thereof upon a finding that the waiver of such charge is in the best interest of the city/town. In making such decision, the Mayor and Board of Aldermen should consider the total cost of the off-site improvements, the need created by the development, the benefit to areas of the city/town outside the development and the general need for the improvements in the area.

Section ____ Late fees; Bill payment.

If any charges for the services of the systems shall not be paid by the (number)th day of the month in which it shall become due and payable, a delayed payment charge of (number) % of the amount of the bill shall be added and collected upon payment. If the (number)th day of the month is a holiday or weekend, payment shall be accepted without penalty on the next business day.

Section ____ Cut-offs and fees.

If any bill for the service of the system shall remain unpaid after (number) days following the rendition of the bill, the water supply for the premises affected shall be cut off and shall not be turned on again except upon payment in full of the delinquent charge and service charges.

Section ____ Water Rate Schedule.

- (a) The monthly water rates to be charged to residential consumers of water in the city/town of (municipality), Mississippi, except as may be hereinafter provided otherwise, shall be as follows:
 - For (number) gallons of water or less used, \$ (dollars) minimum.
 - For (number) to (number) gallons, \$ (dollars) per (number) gallons.

- For (number) to (number) gallons, \$ (dollars) per (number) gallons.
 For over (number) gallons, \$ (dollars) per (number) gallons.
- (b) The monthly water rates to be charged to agricultural consumers of water in the city/town of (municipality), Mississippi, except as may be hereinafter provided otherwise, shall be as follows:
 For (number) gallons of water or less used, \$ (dollars) minimum.
 For (number) to (number) gallons, \$ (dollars) per (number) gallons.
 For (number) to (number) gallons, \$ (dollars) per (number) gallons.
 For over (number) gallons, \$ (dollars) per (number) gallons.
- (c) The monthly water rates to be charged to commercial/industrial consumers of water in the city/town of (municipality), Mississippi, except as may be hereinafter provided otherwise, shall be as follows:
 For (number) gallons of water or less used, \$ (dollars) minimum.
 For (number) to (number) gallons, \$ (dollars) per (number) gallons.
 For (number) to (number) gallons, \$ (dollars) per (number) gallons.
 For over (number) gallons, \$ (dollars) per (number) gallons.

Section ____ Billing for separate meters.

All private homes and residences, and all trailer parks an apartment complexes having two or more users to a water meter shall pay a straight monthly charge of \$ (dollars) per (number) gallons of water, with no quantity discount. For commercial customers a straight monthly charge of \$ (dollars) per (number) gallons of water.

Section ____ Billing adjustments.

Any account holder may request an adjustment for a leak. Leaks shall be verified before an adjustment can be made. The leak can be verified by city/town personnel or by turning in receipts for repair parts or a repair bill. An adjustment will be made on (number) month(s) regardless of how long the leak existed unless the leak appeared at the end of a billing cycle and the beginning of the following cycle due to the billing procedures. In an event, and adjustment will not exceed (number) months. Only (number) adjustment(s) per leak will be allowed.

Adjustment procedure. Adjustments are figured by taking a (number) month average. If the account is not an established account, then the adjustment shall be made from the average usage of existing months of service.

Section ____ Billing adjustments - Swimming pools.

Any homeowner within the corporate limits of (municipality) that has a swimming pool with a capacity of (number) gallons or more may have the opportunity to be exempt from sewerage charge on the water that filled their pool.

Any person wishing to do this must:

- (a) Notify the (municipality personnel) (number) days prior to the scheduled filling.
 - 1) Meter will be read on the scheduled day.
 - 2) (number) hours later the meter will be read. (If you cannot fill within (number) hours, you must notify the (municipality personnel).)
- (b) Swimming pool will need the plumbing installed so that water pumped out will not enter the sewer lines
- (c) Pay a \$ (dollars) service charge for the first (number) hour request.
- (d) Pay an additional \$ (dollars) service charge if additional time is required.

Limit is (number) time(s) per homeowner per year. Any homeowner putting in a new pool will have the same opportunity as stated above. Any person found abusing this privilege will forfeit their right for any future request for adjustment on the water bill.

Section ____ Billing Errors.

If a bill is believed to have an error, an informal hearing may be requested. This request shall be made to the (municipality personnel) in writing no less than (number) days prior to the cut off date.

Section ____ Returned Checks.

If a check presented for payment on a water account is returned NSF (non sufficient funds), stop payment or any other reason the service for that account will be disconnected upon the account becoming delinquent and the normal cutoff policy being followed. If the account is delinquent and cut off and a check presented for payment on a water account ID returned NSF, stop payment or any other reason, then the service will be terminated immediately without further notice.

ARTICLE IV.

CROSS CONNECTION CONTROL PROGRAM

Section ____ Purpose.

The Mayor and the Board of Aldermen deem it necessary to protect the public potable water supply served by the city/town from the possibility of contamination or pollution by isolating, within its customers' internal distribution system, such contaminants or pollutants which could backflow or back-siphon into the public water system; to promote the elimination or control of existing cross-connection, actual or potential, between its customers' in-plant potable water system, and nonpotable systems; and to provide for the maintenance of a continuing program of cross-connection control which will effectively prevent the contamination or pollution of all potable water systems by cross-connection.

The department, as hereinafter defined, will operate a cross-connection control program, to include the keeping of necessary records, which fulfills the requirements of the Mississippi State Department of Health's Cross-Connection Regulations and is approved by the department of health. Such records to be maintained by the department shall include records of the type, size and location of each backflow preventer installed in the system, when each backflow preventer is due to be tested, and the results of each test. Records shall be maintained for five years from date of test and inspection. The owner shall allow his property to be inspected for possible cross-connections and shall follow the provisions of the department 's program and the Mississippi State Department of Health's regulations if a cross-connection is permitted. If the department requires that the public supply be protected by containment, the owner shall be responsible for water quality beyond the outlet end of the containment device and should utilize fixture outlet protection for that purpose.

Section ____ Authority.

It shall be the duty of the ____ (*municipality personnel*) ____ of the department and his designated representative to implement a cross-connection control program to enforce this article and to prevent any person from violating this article in order to protect the public potable water distribution system from contamination or pollution due to the backflow or back-siphonage of contaminants or pollutants through the water service connection. If, in the judgment of the ____ (*municipality personnel*) ____ of public works, an approved backflow device is required at the city/town's water service connection to any customers premises, the ____ (*municipality personnel*) ____, or authorized representative or designee, shall give notice in writing to said customer to install an approved backflow prevention device at each service connection to his premises, and failure to comply with this or other notices shall subject said customer to all penalties provided herein or as set forth in any other applicable laws.

Section ____ Definitions.

The following words, terms, and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Air gap means a physical separation sufficient to prevent backflow between the free-flowing discharge end of the potable water system and any other system. Physically defined as a distance equal to twice the diameter of the supply side pipe diameter but never less than one inch.

Approved means accepted by the _____ (*municipality personnel*) of the _____ (*department/office*) as meeting an applicable specification stated or cited in this regulation, or as suitable for the proposed use.

Atmospheric vacuum breaker means a device, which prevents back-siphonage by creating an atmospheric vent when there is either a negative pressure or subatmospheric pressure in a water system.

Auxiliary water supply means any water supply, on or available, to the premises other than the city/town's approved public potable water supply.

Back flow means the flow of water or other liquids, mixtures or substances, under positive or reduced pressure in the distribution pipes of a potable water supply from any source other than its intended source.

Back flow preventer means a device or means designed to prevent backflow or back-siphonage. Most commonly categorized as air gap, reduced pressure principal device, double check valve assembly, pressure vacuum breaker, atmospheric vacuum breaker, hose bibb vacuum breaker, residential dual check, double check with intermediate atmospheric vent, all of which terms are elsewhere defined herein.

Backpressure means a condition in which the owner(s) system pressure is greater than the suppliers system pressure.

Back-siphonage means the flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply system from any source other than its intended source caused by the sudden reduction of pressure in the potable water supply system.

City/town means the city/town of _____ (*municipality*), Mississippi.

Containment means a method of backflow prevention, which requires a backflow preventer at the water service entrance.

Contaminant means a substance that will impair the quality of the water to a degree that it creates a serious health hazard to the public leading to poisoning or the spread of disease.

Cross-connection means any actual or potential connection between the public water supply and a source of contamination or pollution.

Department or _____ (*department/office*) means the city/town of _____ (*municipality*), Mississippi, Department of _____ (*department/office*).

Department of health means the state department of health Bureau of Public of Water Supply.

_____ (*municipality personnel*) of the _____ (*department/office*) means the _____ (*municipality personnel*) of the _____ (*department/office*) of the City/town of _____ (*municipality*), Mississippi, or authorized representative or designee.

Double check valve assembly means an assembly of two independently operating spring loaded check valves with tightly closing shut off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve.

Double check valve with intermediate atmospheric vent means a device having two spring loaded check valves separated by an atmospheric vent chamber.

Fixture isolation means a method of backflow prevention in which a backflow preventer is located to correct a cross connection at an in-plant location rather than at a water service entrance.

Health hazard (high hazard) means contamination with the potential to endanger the health and well being of the water customer or owner.

Hose bibb vacuum breaker means a device which is permanently attached to a hose bibb and which acts as an atmospheric vacuum breaker.

Nonpotable water means water not acceptable for human consumption or of unknown quality.

Non-health hazard (low hazard) means not harmful to health, but would still be objectionable.

Owner means any person who has legal title to, or license to operate or habitat in, a property upon which a cross-connection inspection is to be made or upon which a cross connection is present.

Person means any individual, partnership, company, public or private corporation, political sub-division, department, agency or instrumentality of the state or the United States or any other legal entity.

Permit means a document issued by the _____ (*municipality personnel*) of the _____ (*department/office*) or authorized representative or designee of the city/town, which allows the use of a backflow preventer.

Pollutant means a foreign substance that, if permitted to get into the public water system, will degrade its quality so as to constitute a high hazard, or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such water for domestic use.

Potable water means water that is acceptable for human *consumption*.

Pressure vacuum breaker means a device containing one or two independently operated spring loaded check valves and an independently operated spring-loaded air inlet valve located on the discharge side of the check or checks. Device includes tightly closing shut-off valves on each side of the check valves and properly located test cocks for the testing of the check valve(s).

Reduced pressure principal backflow preventer means an assembly consisting of two independently operating approved check valves with an automatically operating differential relief valve located between the two check valves, tightly closing shut-off valves on each side of the check valves plus properly located test cocks for the testing of the check valves and the relief valve.

Residential dual check means an assembly of two spring loaded, independently operating check valves without tightly closing shut-off valves and test cocks. Generally employed immediately down-stream of the water meter to act as a containment device.

Water service entrance means that point in the owner(s) water system beyond the sanitary control of the city/town; generally considered to be the outlet end of the water meter and always before any unprotected branch.

Section ____ Backflow prevention assembly requirement.

(a) *Elimination and protection of cross connections.* Cross connections occurring within the city/town shall be eliminated or protected with the appropriate backflow preventer. Cross connections are eliminated by establishing an air gap between the potable and nonpotable sources. Cross connections are protected by installing the appropriate backflow preventer. It shall be the responsibility of the owner of the cross connection to eliminate the cross connection or protect the cross connection with a backflow preventer approved by the city/town.

(b) *Connection to sewer.* Direct connections, permanent or temporary, between the water system and a sanitary or storm sewer are prohibited.

(c) *Home wells.* Connection to any source of water other than that provided by the water system, including home wells, is prohibited.

(d) *Approved backflow prevention assemblies.* Only backflow prevention assemblies approved by the department of health shall be installed on this water system to comply with this article.

(e) *Installation requirements.* Reduced pressure principal assemblies, double check valve assemblies, and pressure vacuum breakers shall be installed in a manner and location that provides adequate access for testing and repair of the assembly. Reduced pressure principal assemblies and double check valve assemblies shall not be subject to possible flooding. Reduced pressure principal assemblies and double check valve assemblies shall not be installed in a pit or enclosure below ground level.

Section ____ Requirements and responsibilities.

(a) (department/office) .

- (1) On new installations, the department will provide on-site evaluation and/or inspection of plans in order to determine the type of backflow preventer, if any, that will be required, will issue permits, and perform inspections. In any case, a minimum of a dual check valve will be required in any new construction.
- (2) For premises existing prior to the start of this program, the department will perform evaluations and inspections of plans and/or premises and inform the owner by letter of any corrective action deemed necessary, the method of achieving the correction, and the time allowed for the correction.
- (3) The department will not allow any cross-connection to remain unless it is protected by an approved backflow preventer for which a permit has been issued and which will be regularly tested to insure satisfactory operation.
- (4) The department shall inform the owner, by letter, of any failure to comply, by the time of the first reinspection. The department will allow an additional (number) days for the correction. In the event the owner fails to comply with the necessary correction by the time of the second reinspection, the department will inform the owner by letter, that the water service to the owner's premises will be terminated within a period not to exceed (number) days. In the event that the owner informs the department of extenuating circumstances as to why the correction has not been made, a time extension may be granted by the department but in no case shall such extension exceed an additional (number) days.
- (5) If the department determines at any time that a serious threat to the public health exists, the water service may be terminated immediately.
- (6) The department shall have on file a list of private contractors who are certified backflow device testers. All charges for these tests will be paid by the owner of the building or property receiving water service.
- (7) The department will begin initial premises inspections to determine the nature of existing or potential hazards, following the approval of this program by the department of health, during the calendar year (year). Initial focus will be on high hazard industries and commercial premises.

(b) *Owner.*

- (1) The owner shall be responsible for the elimination or protection of all cross-connections on his premises.
- (2) The owner, after having been informed by a letter from the department, shall, at his expense, install, maintain, and test, or have tested, any and all backflow preventers on his premises.
- (3) The owner shall correct any malfunction of the backflow preventer, which is revealed by periodic testing.
- (4) The owner shall inform the (municipality personnel) of the (department/office) of any proposed or modified cross-connections and also any existing cross-connections of which the owner is aware but has not been found by the department.

- (5) The owner shall not install a by-pass around any backflow preventer unless there is a backflow preventer of the same type on the bypass. Owners who cannot shut down operation for testing of the device(s) must supply additional devices necessary to allow testing to take place.
- (6) The owner shall install backflow preventers in a manner approved by the department.
- (7) The owner shall install only backflow preventers approved by the department or the department of health.
- (8) In the event the owner installs plumbing to provide potable water for domestic purpose, which is on the city/town's side of the backflow preventer, such plumbing must have its own backflow preventer, installed.
- (9) The owner shall be responsible for the payment of all fees for permits, annual or semi-annual device testing, retesting in the case that the device fails to operate correctly, and second reinspections for non-compliance with department or department of health requirements.

Section ____ Testing of backflow prevention devices.

- (a) *Right to enter.* The department shall have the right to enter any nonresidential building, during reasonable hours, to inspect the plumbing system installed in any such building or premises provided prior notification of the inspection is given. The department shall first obtain consent of the owner to enter any residential dwelling.
- (b) *Tests required.* Each reduced pressure principal backflow prevention assembly, double check valve assembly, and pressure vacuum breaker installed shall be tested after installation, after repairs of any kind, and annually. Any backflow preventer found to be nonfunctional shall be re-paired and retested within (number) days of the initial test.
- (c) *Certified testers.* Only backflow preventer testers certified by the department of health shall test backflow preventers located in the city/town.
- (d) *Repairs and replacements.* Any backflow preventer, which fails during a periodic test, will be repaired or replaced. When repairs are necessary, upon completion of the repair the device will be retested at owner's expense to insure correct operation. High hazard situations will not be allowed to continue unprotected if the backflow preventer fails the test and cannot be repaired immediately. In other situations, a compliance date of not more than (number) days after the test date will be established. The owner is responsible for spare parts, repair tools, or a replacement device. Parallel installation of two devices is an effective means of the owner insuring that uninterrupted water service during testing or repair of devices and is strongly recommended.
- (e) *Additional testing.* Backflow prevention devices will be tested more frequently than specified in subsection (b) above, in cases where there is a history of test failures and the department feels that due to the degree of hazard involved, additional testing is warranted. Cost of the additional tests will be borne by the owner.
- (f) *Notification of testing.* The department shall notify the owner of each backflow preventer (number) days prior to the date that the backflow preventer is scheduled to be tested.

Section ____ Degree of hazard; classification of hazard.

The department recognizes the threat to the public water system arising from cross connections. All threats will be classified by degree of hazard and will require the installation of approved reduced pressure principal backflow prevention devices or double check valves. Each cross connection found will be classified as high hazard or low hazard by the department. If a connection is found to be a high hazard cross connection, the owner of the connection shall be notified in writing within (number) days that the cross connection must be eliminated or protected by the installation of a backflow preventer approved by the department within (number) days of notification. If the connection is found to be a low hazard cross connection, the owner of the connection shall be notified in writing within ten days that the connection shall be eliminated or protected by a backflow preventer approved by the department within (number) year(s) of notification.

Section ____ Permits.

- (a) Cross-connection permits that are required for each backflow prevention device shall be obtained from the department. A fee of \$ (dollars) will be charged for the initial permit and \$ (dollars) for the renewal of each permit.
- (b) Permits shall be renewed every year and are nontransferable. Permits are subject to revocation and become immediately revoked if the owner should so change the type of cross-connection or degree of hazard associated with the service, in addition to any other applicable penalties.

Section ____ Existing in-use backflow prevention devices.

Any existing approved backflow preventer shall be allowed by the department, if it meets department of health standards, to continue in service unless the degree of hazard is such as to supercede the effectiveness of the present backflow preventer, or result in an unreasonable risk to the public health. Where the degree of hazard has increased as in the case of a residential installation converting to a business establishment, any existing backflow preventer must be upgraded to a reduced pressure principal device, or a reduced pressure principal device must be installed in the event that no backflow device was present. Any existing backflow preventers will be tested within (number) days of their identification.

Section ____ Other violations and penalties.

(a) *Refusal of inspection.* If the owner refuses to allow the department to perform the necessary inspections to determine if a cross connection exists, the department shall require that reduced pressure principle backflow prevention assembly be installed at that service connection.

(b) *Service terminated.* If the owner, after having been informed that a cross connection exists at his property, refuses to eliminate or protect the cross connection through the use of the appropriate backflow preventer within the department of health regulations time limits, (number) days for high hazard and one year for low hazard, water service to the connection shall be terminated until such time as the owner complies with department of health regulations.

Land Use and Zoning

Zoning is the delineation of a city into areas, or zones, and the establishment of rules to govern land use and the location, bulk, height, shape, use and coverage of structures within each zone. Zoning is the primary implementation tool of the comprehensive plan. The plan establishes general areas for each use expected over the long-term. Zoning delineates specific areas that are considered suitable for development of each use in the short term and protects developed areas from intrusion by incompatible uses.

Traditional Zoning Ordinances

A traditional zoning ordinance consists of two primary elements—the zoning text, which defines each zone and the conditions of use which are allowed in it, and the zoning map, which locates each zone in the municipality. As long as a zoning ordinance conforms to adopted planning purposes, including protection of public health, safety and welfare, it is considered a legitimate exercise of the basic police power of local government. However, there are ways in which that power can be abused.

A municipality cannot treat property owners in a discriminatory or arbitrary fashion. There must be a reasonable basis for different classifications of areas, and rules must be applied reasonably to specific properties.

Zoning typically divides a community into residential, commercial, and industrial zones. The zones can be further refined into more detailed areas such as single family, multifamily, retail, office, light industrial, manufacturing, institutional, open space, and the like.

Each district should contain a statement of intent, indicating the district's prime function, the characteristics which distinguish it from other districts, and the reasons for establishing it. The intent must have a substantial relation to the general purposes of zoning.

The number of residences allowed per lot is specified, as are the types of businesses allowed in commercial zones. Uses in each zone are generally of two types—uses allowed by right or under special conditions. Special or conditional uses must be reviewed on a case by case basis, while uses per-

mitted by right require no such case review. Proposals for such uses are only allowed if they meet certain specific requirements designed to ensure they will be compatible with the uses allowed by right in the zone.

Flexible Zoning Controls

Frequently used departures from this traditional form of zoning include planned unit developments, floating zones, overlay zones, performance zoning, central business districts, mixed use zones, traditional neighborhood development and new urbanist provisions.

If the parcel is relatively large, a planned unit development can allow a mixture of uses within a parcel. The overall site plan, including streets, utilities, open space and public facilities, is submitted and approved before zoning is changed. Overall density and intensity of uses are consistent with the ordinance, but regulations do not apply on a lot-by-lot basis.

A floating zone is not shown on the map, hence the term “floating,” but allows the legislative body the choice of designating any of several logical locations for a use only when a property owner is ready to proceed with development of the use on a specific site.

The overlay zone is used to meet specific physical, cultural, or economic conditions not generally found in the municipality, such as older downtown districts, historic areas, slopes, and floodplains. A commercial district with a downtown district overlay may allow all the same uses as other commercial districts but have no side yard or setback requirements. A slope overlay may require that each lot be large enough or shaped to provide a building site on relatively level ground. An airport overlay may be used to restrict the height of buildings near the flight path or to increase the soundproofing requirements of construction. Historic districts serve a public purpose by preserving historic sites or buildings. Floodplain zones can be used to protect all development in areas subject to flooding.

Performance zoning allows controlled integration of uses based on the compatibility and individual characteristics of each use. There are fewer use

specifications, but the acceptability of each use is determined by how well it meets general criteria relating to such factors as noise, vibration, smoke, odor, dust, glare, heat, hazards, parking, wastes, traffic, electromagnetic fields, and radioactive emissions. The intent is to control the characteristics of uses so that the character and the quality of the district is preserved. Such zoning is particularly common for industrial uses.

Other Requirements of Zoning

Traditional zoning ordinances specify the minimum size of lots, how far buildings must be set back from property lines, the height or number of stories of the buildings, how much parking must be provided, the width of the streets, and other design requirements. The setback, or yard, requirements may be an absolute number, e.g., twenty-five (25) feet from the roadway, or a percentage of the lot width for side yards or depth for front and back yards. Setbacks for property lines abutting streets may be expressed as a measurement from either the edge or the middle of the street's right-of-way. The number of parking spaces required varies with the type of use. While there are recognized standards for parking, the requirements may be modified to meet local conditions, such as the availability of public transportation or the average number of cars per resident. Most building height requirements are expressed as a combination of the height from the ground level to some point on the roof and the number of stories. Street widths are generally specified in accordance with the requirements of the agencies controlling them.

Traditional design requirements may hamper the ability of the land developer to preserve useable open space and valuable natural features. The cluster option found in many ordinances allows smaller lots, if the land gained is preserved as permanent open space. The zero lot line development, which allows side yard requirements to be combined on one side of the building can produce more useable open space for each residence.

The building size and setback requirements can be replaced by a more flexible lot coverage ratio which limits the maximum ratio between lot and

floor space in the building. These ratios are called floor/area ratios or FAR's.

Parking may be shared, if the users sharing the parking have need for the spaces at different times or if an adjoining lot has more spaces than it needs. For example, a day-time use such as an office may share parking with a night-time use such as a theater. The same office may share parking with a church, which would only need the spaces when the offices were closed. These arrangements may be formalized in a covenant which is made between the property owners and which is recorded with the lots.

Nonconforming Uses or Grandfather Provisions

Even the most flexible zoning ordinances cannot cover all situations that exist when the ordinance is adopted. Some properties will not conform to the zone in which they find themselves, e.g., businesses are found in residential zones or buildings are built too close to the lot lines. There are several ways to handle these situations, including simply identifying them and leaving them alone. However the most common is to encourage eventual redevelopment in a way that is consistent with the ordinance.

Nonconforming buildings are usually eliminated by not allowing them to be enlarged, expanded, or, if damaged over a certain point, rebuilt or replaced. If the nonconforming use is discontinued for a specified period of time, it usually may not be resumed. If it is a nonconforming business, the type of business is usually not allowed to be changed unless the new business is more compatible with the neighborhood.

An alternate strategy is to amortize each nonconforming use. The amortization period for structures depends on their current age and expected useful life. Uses are normally accorded the time any equipment used might be expected to be replaced. When the amortization period is over, the building or use must be removed or replaced with a conforming building or use.

Rezoning

The method and procedures for amending the zoning ordinance are set by state law. As with the original adoption of the zoning ordinance, all rezoning must comply with statutory requirements. A rezoning is actually an amendment to the existing zoning ordinance and requires the adoption of an ordinance. In general, land may only be rezoned by action of the municipal governing authority after a recommendation has been made by the planning commission and after holding the required public hearing.

Courts have generally held that the burden is upon the applicant for a rezoning to show that either there was a mistake in the original zoning in the form a scrivener's error or that a developmental change has occurred in the area of such a magnitude as justify the proposed rezoning. The governing authority should make note of these findings, or lack thereof, as part of the record.

Two-Thirds Requirement

By statute, an additional super-majority vote requirement exists when the rezoning is protested by the owners of twenty percent (20%) or more of either of the area of the lots included in such a proposal, or of those immediately adjacent to the rear, and extending one hundred sixty (160) feet, or of those directly opposite, extending one hundred sixty (160) feet from the street frontage of opposite lots. In the event of a protest, the change must be approved by a favorable vote of two-thirds of all of the members of the legislative body.

Spot Zoning

Spot zoning generally describes a situation where property is rezoned for a use prohibited by the original zoning ordinance and out of harmony therewith. This is a common objection raised by those opposed to a rezoning, and is often argued that such a "spot zoning" is designed to favor someone. The validity of a spot zoning decision will depend on the circumstances of the individual use.

Checklist Analysis for Zoning Amendment Decisions

As a guide to determining the appropriateness of a rezoning, the following twenty (20)-item checklist

might be used to evaluate potential zoning decisions:

1. Would change be contrary to the general welfare?
2. Is an administrative procedure available and preferable to rezoning?
3. Would the original purpose of the regulation be thwarted?
4. Have procedural requirements been met?
5. Are there sites for the proposed use in existing districts permitting such use?
6. Is the proposed change contrary to the established land use pattern and the adopted plan?
7. Would change create an isolated, unrelated district, i.e., is it spot zoning?
8. Have major land uses changed since the zoning was applied, e.g., new expressway, new dam, and so forth?
9. Is existing development of the area contrary to existing zoning ordinance, i.e., are there special uses or violations?
10. Can the owner of the property realize an economic benefit from uses in accord with existing zoning?
11. Would change of present district boundaries be inconsistent with existing uses?
12. Would the proposed change conflict with existing commitments or planned public improvements?
13. Will change contribute to traffic congestion or dangerous traffic patterns?
14. Would change alter the population density pattern and thereby increase, in a detrimental manner, the load on public facilities, schools, sewer and water systems, parks, and so forth?
15. Would change combat economic segregation?
16. Would change adversely influence living conditions in the vicinity due to any type of pollution?
17. Would property values in the vicinity be inflated by the change?
18. Would property values in the vicinity be decreased by the change?
19. Would change constitute an "entering wedge" and thus be a deterrent to the use, improvement or development of adjacent property in accord with existing zoning ordinance or plan?
20. Would change result in private investment which would be beneficial to the redevelopment of a deteriorated area?

Special or Conditional Uses

Zoning codes often set forth special or conditional uses. Special uses are reviewed on a case by case basis to determine the fit between the use and the proposed location. The question of fit or compatibility between use and location provides the opportunity for persons to lobby for or against a proposed use.

In general, a special use can be viewed as a proposed use of land or structures which, due to the unique characteristics of the use, must be reviewed independently of previous land use actions, and is often not classified in any particular zoning district due to the variety of potential impacts it represents in different locations.

Without clear-cut arguments concerning the necessity or compatibility of a use, the allowance of a special use can be viewed as arbitrary. Specific rationale behind the decision should be included in the record of the decision. Adherence to specific criteria or standards used in similar cases provides legal support when conflicts arise.

Standards or criteria for special use approval are often used on municipal applications, not only to provide a rational basis for decision making, but also to gain insight to the petitioner's reasons for the development request. The following are examples of such standards:

- The special use will accommodate, and is necessary for the public health safety and welfare of the community;
- The special use will not alter the essential character of the proposed location and surroundings;
- The location, size, intensity of operation, and access to the site will be appropriate to the orderly development of the area;
- The characteristics of the special use will not impair the value of adjacent parcels and property in the close vicinity;
- The special use will properly locate, design, and screen parking and circulation areas to avoid and alleviate traffic hazards potentially caused by the use; and
- The special use will not create fire or traffic hazards or overtax public utilities.

Variances

The zoning code cannot cover every property situation with a rule and regulation. Properties and uses can be unique. A variation from the zoning code must respond to a "unique hardship" or "practical difficulty," usually of site or existing condition. A variation should be considered a last resort. Inappropriate granting of variances can undermine the entire zoning and subdivision codes, so decisions must be made carefully. If many similar requests arise, the zoning or subdivision codes should be reviewed to determine if either should be changed or if a particular policy should be developed to review such requests.

Site variations are allowances for properties which represent unique hardships in the development of the property. This may concern the angles, distance, and location of the lot lines to each other, which, together or individually, represent obstacles to proposed development. Many variations arise because of new zoning code implementation and the existence of older lots that were subdivided with no regulatory control. Development on such lots with modern structures can require variances to allow use of the property. Municipal officials must make the determination if the requested variance is the result of unique hardship related to the physical configuration of the lot or of building plans not appropriate to the lot.

Existing conditions can also provide unique hardships when existing structures or sites are used for purposes other than the original intent. For example, residential structures which become part of commercial district or special uses on lots created for other purposes.

Use variations are a poor planning practice and of questionable legal validity. A use variation is to allow a use in a certain zoning district that is not presently allowed in that district. The approval of such a request is actually a rezoning of a parcel, because it is allowing a parcel in one zoning district to be used in a manner allowed exclusively in another zoning district. These requests should be considered through the rezoning process.

Standards or criteria for variation approval are often used on municipal application to gain further

insight into the petitioner's reasons for the variation request. The standards can generally outline the following concerns:

- The request for variation is distinguished from mere inconvenience of particular physical attributes of the parcel;
- The variation request is valid enough to circumvent existing city ordinance;
- Unique circumstances to the site are evident;
- The requested variation is unique relative to similar properties in the area;
- The unique circumstances have not been created by any person possessing an interest in the property;
- The owners of the subject property did not create the circumstance(s) requested for in the variation; and,
- The variation will not alter the essential character of the locality.

Subdivision Ordinances

Governing authorities and planning commissioners must deal with a variety of zoning and land use controls on a regular basis. Subdivision regulations represent one of the most important land use tools available to local government.

While subdivision review is often characterized as a "non-discretionary" or "by right" procedure (assuming the property is properly zoned for the intended use), this is not necessarily true. It is important to remember that it is during this process that important decisions are made concerning the construction of major roads and utilities, the preservation of natural streams and drainage courses, the sizes and shapes of lots, and whether or not properties are developed into building lots or preserved as sites for important public uses, such as schools, parks, and rights-of-way.

Typical Subdivision Procedures

Most subdivision ordinances formally establish a two-step review and approval process for subdivision plats. The first step is review of a "preliminary" or "tentative" plat, followed by approval of a "final" or "record" plat. In reality, most communities, whether formally adopted as part of the subdivision regulations or informally practiced, use a four-step review process: (1) pre-application meet-

ings, (2) review of the preliminary plat, (3) review of final engineering drawings and specifications, and (4) review and recording of the final plat.

The importance of the first and third steps is often overlooked when a community analyzes its subdivision review process.

Pre-Application Meetings

While not every community formally adopts a pre-application meeting as a required step in the subdivision review process, in reality, most developers will attempt to have one or a series of meetings with the municipal staff in order to identify potential issues before going to the expense of preparing a preliminary plat. Properly organized, the pre-application meetings can benefit both the applicant and the community, and can save the planning commission many hours of meeting time.

The subdivision ordinance should be viewed as a mechanism for implementing the goals and objectives of the comprehensive plan and as the principal guide for the development of a community. The applicant should discuss with municipal staff the policies in the comprehensive plan (including the official map) and the zoning restrictions which may affect the subdivision of the property. Among the items which should be addressed at the pre-application stage are the following:

Public Use Sites - Are any future school, park, or other public use sites shown on the comprehensive plan that would involve the property? If so, will the land be acquired? Will some or all of the property be dedicated to the municipality by the developer?

Transportation - Will major right-of-way dedications be required as part of the subdivision? Will a proposed cul-de-sac need to be made a through street? Will there be access limitations imposed due to the site's frontage on a major thoroughfare?

Environment - Is the property in the flood plain or are there any known wetland areas? As a result of Mississippi's Endangered Species Protection Act, are there any animals in the vicinity that may use the property as a habitat? Are there any structures or sites on the property that are historic?

Engineering and Utilities - Are there general or localized engineering issues which need to be

addressed as part of the subdivision, e.g. drainage, general soil suitability, and so forth?

Zoning Issues - Will any types of rezoning or variance requests need to accompany the subdivision application?

Procedural Matters - Does the applicant understand what steps will be involved in the subdivision process and how long approval might take? (This is the all-time, number one question of applicants.) Does the applicant understand the responsibilities involved, e.g., the type of information that must be presented to the planning commission, number of prints required, and so on? Are there any dedications, exaction or impact fees, or other types of fees or payments that are likely to be required as part of the approval process?

Having these questions addressed early in the process can identify and resolve many issues which otherwise would take up an inordinate amount of the planning commission's time during the review of the preliminary plat.

Preliminary Plat Review

The preliminary plat stage is when most major issues related to the subdivision should be resolved. When the preliminary plat review stage is completed, the applicant should know how many lots will be allowed and what is generally expected with regard to major public improvements. The planning commission's review of the preliminary plat should identify and resolve the major design issues associated with the subdivision. One of the key issues to be addressed during the review of a community's subdivision regulations is what function is to be served by the preliminary plat. Is the preliminary plat intended to establish the general planning elements of the subdivision, e.g., approximate right-of-way width and location of roads, general configuration of lots, and overall relationship to utilities, or should the plat include detailed information concerning engineering issues that may arise during review of the final engineering drawings, e.g., size of water and sewer lines, fire hydrant location, and precise storm drainage design?

The level of information that is required to be submitted during the preliminary plan review process is related to the types of development issues facing a community. Some communities allow an applicant to submit "soft line" designs for street and lot layouts for preliminary plats, but some require addi-

tional information such as preliminary storm drainage and traffic reports to make certain critical local issues are addressed prior to the approval of the preliminary plat.

Guarantee of Installation of Public Improvements

It is also recommended that the subdivision ordinance establish specific standards to guarantee installation of required public improvements. Issues related to the form and amount of the performance guarantee are best addressed during the review of the final engineering plans.

Final Plat Review

Following preliminary review and perhaps an engineering review, the final plat must be re-examined to make certain that any design changes that may have been necessary did not cause problems with the configuration and sizes of lots. The plat is also reviewed at this point to make certain the language regarding such matters as dedication of right-of-way, notes regarding setbacks and access limitations, and provision of easements reservation are in the proper legal form.

General Design and Improvement Standards

All subdivision applications should be reviewed for consistency with the Comprehensive plan. Such review should include attention to the following design and improvement standards:

- Lot and block size standards;
- Easement requirements;
- Standards for subdivision monuments;
- Public land dedication and reservation standards;
- Street right-of-way and pavement standards;
- Private street standards;
- Intersection design and improvement standards;
- Standards for cul-de-sac streets;
- Sidewalk and bikeway requirements;
- Mass transit planning standards;
- Subdivision and development involving flood plain areas;
- Preservation of streams and natural drainage courses;
- Storm water detention;
- Recognition of wetland areas;
- Tree protection and preservation standards;
- Erosion and sedimentation control measures;
- Preservation of important historic and cultural resources;
- Toxic waste clearance or elimination;
- Connection to public utility systems;

- Over-sizing of public facilities;
- Storm sewer design;
- Public water system design;
- Sanitary sewer system design;
- Underground utility requirements;
- Solid waste storage and disposal;
- Subdivision and development entrance signs;
- Common landscaped and fencing areas; and,
- Common recreation areas.

Standards for establishing homeowners' associations.

The inclusion of these standards in the subdivision ordinance gives the applicant as well as the staff and Plan Commission, a thorough understanding of the types of issues which must be considered and addressed when submitting an application for subdivision or hearings to consider adoption of the plan or any revision or amendment to an existing plan. The elected body may hold the hearing or hearings or delegate the task to the planning commission. Notice of the public hearing must be published not less than 15 days prior to the hearing in a newspaper of general circulation in the county or counties where the municipality is located. The hearing may be informal, but all interested parties must be given an opportunity to be heard, and should be allowed to submit their comments in writing.

Implementation of the Plan

Once the official comprehensive plan is adopted and filed with the municipal clerk, efforts should then be directed towards implementation of the plan. Implementation in its most common form is provided through the administration of zoning and subdivision regulations. Other desirable tools include capital improvements plans, design guidelines, historic preservation ordinances, and economic development incentives. Such implementation ordinances should be based upon and consistent with the recommendations of the comprehensive plan.

It is the planning commission's responsibility to monitor development trends and problems with implementation of the plan, to make recommendations regarding zoning changes, to review and make recommendations on subdivision proposals, and to participate in the annual budget making process for the municipality. If there is a municipal planning staff, it is the commission's responsibility to provide policy direction for that staff. All these activities should be guided by and relate directly and consistently to the official comprehensive plan.

Depending upon the pace of change in the community and its environs, the plan should be reviewed on a regular basis so that it remains responsive to the needs and issues of the people it affects. An increased number of rezoning requests or public improvement projects that are not consistent with the plan any indicate a need to update the plan.

Section VI: Municipal Law

Public Water Authorities

Statute text

It is the intent of the Legislature to provide a means, in addition to the incorporation of districts authorized in Sections 51-41-1 through 51-41-33, by which not-for-profit corporations or associations involved in the sale, transmission and distribution of potable water to members of the public and others may convert their entity status from that of a body corporate to that of a body politic, thereby allowing those entities the opportunity to access the tax-exempt capital markets and thereby assuring the State of Mississippi and the customers of those entities of adequate supplies of water at the lowest water rates possible.

History

Sources: Laws, 2003, ch. 512, 1, eff from and after July 1, 2003.

Annotations

Editor's note- This section was set out to correct an error in the 2003 replacement volume.

Annotations

Cross references- Water districts, etc., see 19-5-151 et seq.

Regulation of public utilities, see 77-3-1 et seq.

Procedure for sale, assignment, lease or transfer of certificate for public utility, see 77-3-23.

Definitions

Statute text

As used in this chapter, unless the context otherwise requires:

(a) "Board" means the board of directors of the water authority;

(b) "Bond" means any bond, promissory note, lease purchase agreement or other evidence of indebtedness of any nature along with all debt securing instruments of every nature related thereto;

(c) "Indenture" means a mortgage, an indenture of mortgage, deed of trust, trust agreement, loan agreement, security agreement or trust indenture executed by the water authority as security for any bonds;

(d) "Project" means any raw or potable water or wastewater intake, treatment, distribution, transmission, storage, pumping, well site, well field or other facility or system, or any combination of the foregoing, that has as its purpose the providing of raw or potable

water to members of the public and commercial, industrial or other users or the treatment of wastewater, along with any and all other appurtenances, equipment, betterments or improvements related thereto. The above projects may include any lands, or interest in any lands, deemed by the board to be desirable in connection with the projects, and necessary equipment for the proper functioning and operation of the buildings or facilities involved;

(e) "Qualified corporation" means any not-for-profit corporation or association that provides, distributes, transmits, treats, pumps or stores raw or potable water to or for the benefit of members of the general public and commercial, industrial and other users;

(f) "United States" means the United States of America or any of its agencies or instrumentalities;

(g) "State" means the State of Mississippi; and

(h) "Water authority" means that body politic and governmental entity organized under the provisions of this chapter.

History

Sources: Laws, 2003, ch. 512, 2, from and after July 1, 2003.

Construction

Statute text

This chapter shall be liberally construed in conformity with its intent. All acts and activities of the water authority performed under the authority of this act are legislatively determined and declared to be essential governmental functions.

History

Sources: Laws, 2003, ch. 512, 3, eff from and after July 1, 2003.

Authority Generally

Statute text

There is conferred upon a water authority, the authority to take such action and to do, or cause to be done, such things as are necessary or desirable to accomplish and implement the purposes and intent of this chapter according to the import of this chapter.

History

Sources: Laws, 2003, ch. 512, 4, eff from and after July 1, 2003.

Authority and Procedure to Incorporate

Statute text

(1) Whenever a qualified corporation desires to convert into and become reconstituted and reincorporated as a water authority under this chapter, the qualified corporation shall present to and file with the Secretary of State:

(a) Its resolution duly adopted by the board of directors of the qualified corporation that evidences the desire of the qualified corporation to convert into and become reconstituted and reincorporated as a water authority and that also certifies that the qualified corporation:

(i) Was initially formed as a not-for-profit corporation or association; and

(ii) Desires to operate as a public body authorized under the laws of Mississippi as a result of its conversion and reconstitution as a water authority under this chapter;

(b) Its application for reconstitution and certificate of incorporation, which shall state and include the following information:

(i) The name of the water authority, which shall be "The _____ Public Water Authority of the State of Mississippi," or some other name of similar import, it being understood that the water authority may adopt a fictitious operational name upon written request to and approval by the Secretary of State;

(ii) The location of the water authority's principal office, and the number of directors of the water authority, which shall be subject to change and modification as provided in the water authority's bylaws;

(iii) The names and addresses of the initial board of directors of the water authority;

(iv) The name and address of the agent for service of process of the water authority; and

(v) Any other matters that the initial board of directors of the water authority may deem necessary and appropriate;

(c) A copy of the water authority's bylaws along with any other information that the initial board of directors of the water authority may deem necessary and appropriate;

(d) A statement and certification from the Secretary of State that the proposed name of the water authority is not identical with that of any other water authority in the state, or so nearly similar thereto as to lead to confusion and uncertainty; and

(e) A reasonable filing and review fee that the Secretary of State may designate and determine from time to time, which shall not be in excess of the filing fee charged in connection with the receipt and filing of a corporation's articles of incorporation.

(2) Two (2) or more qualified corporations may jointly convert into and become reconstituted and reincorporated as one (1) water authority under the same procedure as specified for one (1) qualified corporation under this chapter.

History

Sources: Laws, 2003, ch. 512, 5, eff from and after July 1, 2003.

Existence of Water Authority

Statute text

The application for reconstitution and certificate of incorporation shall be signed and acknowledged by a majority of the board of directors of the qualified corporation. When the application for reconstitution and certificate of incorporation and other required documents have been so filed with and accepted by the Secretary of State, as evidenced by the issuance by the Secretary of State of its certificate of existence in a form that the Secretary of State may deem appropriate, the water authority referred to in the application shall come into existence and shall constitute a body corporate and politic in perpetuity with power of perpetual succession and a political subdivision of the state under the name set forth in the application, and the water authority shall be vested with the rights and powers granted in this chapter and any other applicable laws. At the same time, the qualified corporation shall cease to exist and all assets and liabilities of every nature, including without limitation, all real property, personal property, certificate of public necessity and convenience, contractual obligations, lending obligations outstanding, rights afforded borrowers of federal and state funds and other tangible and intangible assets and liabilities of every nature shall, without need for further action or approval by any third party, be vested in and shall accrue to the benefit of the water authority. The water authority shall then send notice of transfer of said certificate to the Mississippi Public Service Commission.

History

Sources: Laws, 2003, ch. 512, 6, eff from and after July 1, 2003.

Board of Directors

Statute text

(1) The water authority shall have a board of directors composed of the number of directors provided in the application for reconstitution and certificate of incorporation, which shall not be fewer than five (5) directors. All powers of the water authority shall be exercised by the board or under its authorization.

(2) The directors shall be elected and determined, and shall serve in accordance with those procedures that the water authority may specify in its bylaws; provided, however, that each water or sewer user served by the water authority shall be entitled to vote on the election of directors of the water authority. The water authority's bylaws shall contain provisions and procedures for the election and appointment of its directors that are identical in nature to those same provisions and procedures as contained in the qualified corporation's bylaws, unless otherwise amended by the water authority or required by state law. A water authority shall promptly file a copy of any amendments to its bylaws with the Secretary of State. A water authority also may promulgate rules and regulations, not inconsistent with state law, containing provisions and procedures for the election and appointment of its directors.

(3) Each director shall take and subscribe to the oath of office prescribed in Section 268, Mississippi Constitution of 1890, that he will faithfully discharge the duties of the office of director, which oath shall be maintained on file by the water authority. Before entering upon the discharge of the duties of his office, each director shall be required to execute a bond payable to the State of Mississippi in the penal sum of Ten Thousand Dollars (\$10,000.00), conditioned that he will faithfully discharge the duties of his office.

(4) A majority of the members of the board shall constitute a quorum for the transaction of business. No vacancy in the membership of the board shall impair the right of a quorum to exercise all the powers and duties of the water authority. A director shall continue in office until the director's successor is properly elected and accepts office.

(5) The members of the board and the officers of the water authority shall serve without compensation, except that they may be reimbursed for actual expenses incurred in and about the performance of their duties.

(6) All meetings and records of the water authority shall be subject to the Mississippi Open Meetings Act and the Mississippi Public Records Act.

(7) All proceedings of the board shall be reduced

to writing by the secretary of the water authority and appropriately recorded and maintained in a well-bound book.

History

Sources: Laws, 2003, ch. 512, 7, eff from and after July 1, 2003.

Officers

Statute text

The officers of the water authority shall consist of a chairman, vice chairman, a secretary, a treasurer, and such other officers as the board deems necessary to accomplish the purposes for which the water authority was organized. All officers of the water authority shall be persons who receive water service from the water authority. The offices of secretary and treasurer may, but need not, be held by the same person. The treasurer or secretary-treasurer shall be required to execute a bond payable to the water authority, in a sum and with such security as fixed and approved by the board. All officers of the water authority shall be elected by the board and shall serve for those terms of office as specified in the bylaws.

History

Sources: Laws, 2003, ch. 512, 8, eff from and after July 1, 2003.

Powers Generally

Statute text

The water authority shall have the following powers, acting either individually or jointly with other water authorities or public entities, together with all powers incidental thereto or necessary to the discharge thereof:

- (a) To have succession in its designated name;
- (b) To sue and be sued and to prosecute and defend suits in any court having jurisdiction of the subject matter and of the parties;
- (c) To make use of a seal and to alter it at pleasure;
- (d) To adopt and alter bylaws for the regulations and conduct of its affairs and business;
- (e) To acquire, whether by purchase, gift, lease, devise, or otherwise, property of every description which the board may deem necessary to the acquisition, construction, equipment, improvement, enlargement, operation, administration or maintenance of a project, and to hold title thereto;

(f) To construct, enlarge, equip, improve, maintain, consolidate, administer and operate one or more projects;

(g) To borrow money, including interim construction financing, for any of its purposes;

(h) To sell and issue its bonds;

(i) To sell and issue refunding bonds;

(j) To secure any of its bonds by pledge and indenture as provided in this chapter;

(k) To appoint, employ and compensate such general managers, executive directors, agents, architects, engineers, attorneys, accountants and other persons and employees as the business of the water authority may require;

(l) To provide for such insurance as the board may deem advisable;

(m) To invest in obligations that are direct or guaranteed obligations of the United States of America, or other securities in which public funds may be invested by any other political subdivision under the laws of this state, any of its funds that the board may determine are not presently needed for its operational purposes;

(n) To contract, lease and make lease agreements respecting its properties or any part thereof;

(o) To exercise the power of eminent domain in accordance with the procedures prescribed by Title 11, Chapter 27, Mississippi Code of 1972;

(p) To sell, convey or otherwise dispose of any of its properties or projects; and

(q) To exercise and hold the authority and power granted to water supply systems and sewer systems under Sections 19-5-173, 19-5-175, 19-5-177 and 19-5-203.

History

Sources: Laws, 2003, ch. 512, 9, eff from and after July 1, 2003.

Tax Exemption of Projects

Statute text

Each project, all the water authority's interest therein, and all income from the project, is determined and declared by the Legislature to be public property used exclusively for a public purpose and shall be exempt from ad valorem taxation by all taxing authorities.

History

Sources: Laws, 2003, ch. 512, 10, eff from and after July 1, 2003.

Issuance of Bonds

Statute text

(1) The water authority is authorized at any time, and from time to time, to issue its bonds for the purpose of acquiring, constructing, improving, enlarging, completing and equipping one or more projects.

(2) Before the water authority's proposed issuance of bonds, the water authority shall publish one (1) time in a newspaper of general circulation in the affected county or counties, notice of the proposed issuance of bonds, the approximate principal amount of bonds contemplated to be sold, a general description of the project contemplated to be constructed with bond proceeds and the date of a public meeting at which members of the public may obtain further information regarding the sale of the bonds and the development of the project. The notice shall be published at least ten (10) days before the date of the hearing. The water authority chairman, or his or her designee, shall be responsible for conducting the hearing and shall require all public comments that might pertain to the proposed issuance of bonds by the water authority. Upon compliance with the provisions of this section, no other notice, hearing or approval by any other entity or governmental unit shall be required as a condition to the issuance by the water authority of its contemplated bonds.

(3) The principal of, and the interest, if any, on any bonds shall be payable out of the revenues derived from the projects with respect to which the bonds are issued, or from any other source available to the water authority.

(4) None of the bonds of the water authority shall ever constitute an obligation or debt of the state, the municipality or county in which the water authority operates, the Secretary of State, or any officer or director of the water authority, or a charge against the credit or taxing powers of the state.

(5) As the water authority determines, bonds of the water authority may:

(a) Be issued at any time and from time to time;

(b) Be in such form and denominations;

(c) Have such date or dates;

(d) Mature at such time or times and in such amount or amounts, provided that no bonds may mature more than forty (40) years after the date of issuance;

(e) Bear interest, if applicable, payable at such times and such rate or rates as may be established by the board;

(f) Be payable at such place or places within or without the State of Mississippi;

(g) Be subject to such terms of redemption in advance of maturity at such prices, including such premiums; and

(h) Contain such other terms and provisions as may be appropriate or necessary in the discretion of the water authority.

(6) Bonds of the water authority may be sold at either public or private sale in such manner, and from time to time, as may be determined by the board to be most advantageous. The water authority may pay all expenses, premiums and commissions that the board may deem necessary or advantageous in connection with the authorization, sale and issuance of its bonds.

(7) All bonds shall contain a recital that they are issued under the provisions of this chapter, which recital shall be conclusive that they have been duly authorized under the provisions of this chapter.

(8) All bonds issued under the provisions of this chapter shall be and are declared to be negotiable instruments within the meaning of the negotiable instruments law of the state and shall be in registered form.

(9) All bonds issued by a water authority may be validated upon the direction of the board under Sections 31-13-1 through 31-13-11. The validation hearing shall be held in the county in which the principal office of the water authority is located.

History

Sources: Laws, 2003, ch. 512, 11, eff from and after July 1, 2003.

Execution of Bonds

Statute text

Bonds shall be executed by the manual or facsimile signature of the chairman of the water authority and by manual or facsimile signature of the secretary of the water authority. In case any of the officers whose signatures appear on the bonds cease to be that officer before the delivery of the bonds, their signatures shall nevertheless be valid and sufficient for all purposes. The bonds shall be sealed with the seal of the water authority.

History

Sources: Laws, 2003, ch. 512, 12, eff from and after July 1, 2003.

Security for Bonds

Statute text

(1) The principal of, and interest, if any, on the bonds, may be secured by a pledge of the revenues of the water authority of that project financed by the water authority through its issuance of bonds, or from any other source that the water authority may deem necessary and appropriate, and may be secured by the creation of a mortgage and security interest encumbering the real property of the water authority, or security interest in all personal property and revenues of the water authority as set forth in the indenture.

(2) The trustee under any indenture may be a trust company or bank having trust powers, whether located within or without the state.

(3) The indenture may contain any agreements and provisions customarily contained in instruments securing evidences of indebtedness including, without limiting, the generality of the foregoing provisions respecting the nature and extent of the security; the collection, segregation and application of the revenues generated from the operation of any project covered by the indenture; covenants to always operate the project as a revenue-producing undertaking and to charge and collect, including the obligation to increase from time to time, sufficient revenue to maintain income at required levels; the maintenance and insurance of the project; the creation and maintenance of reserve and other special funds; and the rights and remedies available in the event of default to the holders of the bonds or the trustees under the indenture, all as the board shall deem advisable and as shall not be in conflict with the provisions of this chapter.

(4) If there is any default by the water authority in payment of the principal of, or the interest, if any, on the bonds or in any of the agreements on the part of the water authority that may properly be included in any indenture securing the bonds, the bondholders or the trustee under any indenture, as authorized in the indenture, may either in law or in equity, by suit, action, mandamus, or other proceeding, enforce payment of the principal or interest, if any, and compel performance of all duties of the board and officers of the water authority, and shall be entitled as a matter of right and regardless of the sufficiency of any such security to the appointment of a receiver in equity with all the powers of that receiver for the operation and maintenance of the project covered by the indenture and the collection,

segregation, and applications of income and revenues from the project.

(5) The indenture may contain provisions regarding the rights and remedies of any trustee under the indenture and the holders of the bonds and the coupons and restricting the individual rights of action of the holders of the bonds and coupons.

(6) There is created a statutory lien in the nature of a mortgage lien upon any project, system or systems acquired or constructed with proceeds of bonds issued by a water authority under this chapter, including all extensions and improvements thereof or combinations thereof subsequently made, the lien shall be in favor of the holder or holders of any bonds issued under this chapter, and all that property shall remain subject to the statutory lien until the payment in full of the principal of and interest, if any, on the bonds. Any holder of the bonds or any of the coupons representing interest on the bonds may, either at law or in equity, by suit, action, mandamus or other proceedings, in any court of competent jurisdiction, protect and enforce the statutory lien and compel the performance of all duties required by this chapter, including the making and collection of sufficient rates for the service or services, the proper accounting thereof, and the performance of any duties required by covenants with the holders of any bonds issued under this chapter.

If any default is made in the payment of the principal of or interest, if any, on the bonds, any court having jurisdiction of the action may appoint a receiver to administer the water authority and the project, system or systems, with power to charge and collect rates sufficient to provide for the payment of all bonds and obligations outstanding against project, system or systems, and for payment of operating expenses, and to apply the income and revenues thereof in conformity with the provisions of this chapter and any covenants with bondholders.

History

Sources: Laws, 2003, ch. 512, § 13, eff from and after July 1, 2003.

Bonds - Tax Exemption

Statute text

The principal of and interest, if any, on bonds issued under the authority of this chapter shall be exempt from all state, county and municipal taxes. This exemption shall include income, inheritance and estate taxes.

History

Sources: Laws, 2003, ch. 512, 14, eff from and after July 1, 2003.

Proceeds from Issuance of Bonds

Statute text

(1) The proceeds derived from all of the bonds, other than refunding bonds, may be used only to pay the costs of acquiring, constructing, improving, enlarging and equipping the project with respect to which they were issued, as may be specified in the proceedings in which the bonds are authorized to be issued and all costs incidental thereto, including without limitation:

(a) The costs of any land forming a part of the project and all easements that may pertain to or be associated with any project;

(b) The costs of the labor, materials and supplies used in any construction, improvement and enlargement, including architect's and engineer's fees and the cost of preparing contract documents and advertising for bids along with all other reasonable and necessary project cost;

(c) The purchase price of and the cost of installing equipment for the project;

(d) Legal, fiscal, accounting and recording fees and expenses incurred in connection with the authorization, sale and issuance of the bonds issued in connection with the project;

(e) Interest, if any, on bonds for a reasonable period before, during and after the time required for completion of the project;

(f) The amount necessary to fund a debt service reserve in an amount deemed appropriate by the water authority;

(g) Cost associated with the obtaining of default insurance ratings and other credit enhancements of every nature; and

(h) Other operational expenses, reserves and other accounts of every nature.

(2) If any of the proceeds derived from the issuance of bonds remains undisbursed after completion of the project and the making of all such expenditures, the balance shall be used for the redemption of bonds of the same issue.

History

Sources: Laws, 2003, ch. 512, 15, eff from and after July 1, 2003.

Refunding Bonds

Statute text

(1) The water authority may at any time, and from time to time, issue refunding bonds for the purpose of refunding the principal of and interest, if any, on any bonds of the water authority previously issued under this chapter and then outstanding, whether or not the principal and interest have matured at the time of the refunding under this chapter, and for the payment of any expenses incurred in connection with the refunding and any premium necessary to be paid in order to redeem or retire the bonds to be refunded.

(2) The proceeds derived from the sale of any refunding bonds shall be used only for the purposes for which the refunding bonds were authorized to be issued.

(3) Any such refunding may be effected either by sale of the refunding bonds and the application of the proceeds thereof by immediate application or by escrow deposit, with the right to invest monies in the escrow deposit until needed for the redemption or by exchange of the refunding bonds for the bonds or interest coupons to be refunded thereby. However, the holders of any bonds so to be refunded shall not be compelled without their consent to surrender their bonds for payment or exchange before the date on which they may be paid or redeemed by the water authority under their respective provisions.

(4) Any refunding bonds of the water authority shall be payable solely from the revenues out of which the bonds to be refunded were payable or from those other sources or other revenues that might be identified in the indenture.

(5) All provisions of this chapter pertaining to bonds of the water authority that are not inconsistent with the provisions of this section shall, to the extent applicable, also apply to refunding bonds issued by the water authority.

History

Sources: Laws, 2003, ch. 512, 16, eff from and after July 1, 2003.

Act is Full Authority

Statute text

This chapter shall be deemed to be full and complete authority for the creation of water authorities and the issuance of bonds as set forth in this chapter. No proceedings shall be required for the creation of water authorities or the issuance of bonds other than those provided for and required in this chapter. The board of directors of a water authority shall have all the powers necessary in order to carry out the provisions of this chapter.

History

Sources: Laws, 2003, ch. 512, 17, eff from and after July 1, 2003.

Section VII: Bids and Contracts

Purchasing and Contracting ■

Every water system organization needs to develop purchasing and contracting policies and rules to ensure that public or member funds are used efficiently. Municipalities are allowed to develop their purchasing policies, but the policies are subject to Mississippi rules governing municipal purchases. Although water associations are not under municipal jurisdiction regarding purchases and contracts, following the same guidelines can help prevent overspending and help reduce the possibilities of legal action because of questionable or uncertain business practices.

The primary objectives of regulatory policies include specifications for purchasing equipment, materials, and services for the organization. Policies provide outlines for purchasing at the lowest cost if the goods or services are of comparable quality and can be delivered in a timely fashion. The objectives direct the goods or services to the proper location so transactions are completed.

Water associations, water districts, and municipalities contract for tanks, wells, and services that often require expenditures of several hundred thousand dollars or even millions of dollars. Following the same guidelines as the municipalities helps ensure association users, district users, or members that boards are conducting business in an efficient and open manner. Guidelines help protect board members from taking business actions that make them vulnerable to lawsuits. The guide also helps the boards relate to the water-consuming public that they are operating in the best interests of their consumers.

Closely examine your purchasing and contracting policies by using the municipal requirements as guidelines. Policies need to fit the needs of your particular organization. Nonprofit corporations are encouraged to examine, and possibly amend, their bylaws to establish purchasing policies and rules if this has not been addressed. Any policies adopted cannot violate Mississippi's nonprofit corporation laws.

Municipalities must make purchases according to the Mississippi Code of 1972, Section 31-7-13, with respect to the amount of the purchase, the notice requirements, and the time requirements. During the 2002 regular session of the Mississippi Legislature, rules were amended under House Bill 5, which was signed into law by the Governor. Major provisions of this law include the following:

(1.) Purchases of five thousand dollars (\$5000 or less), exclusive of freight and shipping charges, may be made without advertising or requesting competitive bids.

(2.) Purchases of over five thousand dollars and up to fifty thousand dollars (\$5,001 to \$50,000), exclusive of freight and shipping charges, may be made from the lowest and best bidder without advertising for bids provided that at least two (2) competitive bids are obtained. Boards may authorize its designated purchasing agent to accept lowest and best **written** bid. Put the authorization in writing. Competitive bids should only be recognized if submitted on a proper bid form furnished by the purchasing organization and signed by the authorized agent of the vendor or if submitted on a vendor's letterhead with proper signatures and proper and precise specifications.

(3.) Purchases of more than fifty thousand dollars (\$50,000) may be made from the lowest and best bidder after advertising for two (2) consecutive weeks in a regular newspaper published in the county or municipality in which the purchasing organization is located. The date of the bid opening shall be no less the seven (7) days after the last published notice unless the purchase or cost is greater than fifty thousand dollars (\$50,000) and then the bids shall not be opened in less than fifteen (15) days after the last published notice.

(4.) Purchases made under the American Recovery and Reinvestment Act (ARRA) funding programs are subject to very different rules than other types of purchases. The Purchasing Law Summary contained at the end of this section provides an excellent overview of some of the special requirements for using these dollars.

The notice of intention to let contracts or purchase equipment shall list the contracts to be made or types of equipment or supplies to be purchased, and, if all plans/specifications are not published, refer to the plans and/or specifications on file. If no local newspaper is published in the locality or the county, notices shall be posted at the court house or city hall and two other public places, and notices shall be posted for two consecutive weeks in some newspaper having circulation in the area. Municipalities must notify the Mississippi Contract Procurement Center with the same information at the time the notice is submitted to the newspaper.

Agencies shall also maintain a vendor file for bid solicitation and a bid file that lists vendors to whom bid information is mailed. Specifications pertinent to such bids shall not be written to exclude comparable equipment domestically manufactured. A registered engineer or architect may write specifications requiring specific equipment available from limited sources if the purchase can be justified under the existing rules and regulations of the appropriate authority.

Purchases and contracts may be made from the lowest and best bidder including freight and shipping charges. If a bid other than the lowest bid is accepted, a written narrative, along with the necessary calculations and dollar amounts of each bid, is required explaining why the accepted bid was determined to be the lowest and best bid. Bids cannot be based on items not included in the specifications.

If only one bid is received, the bid may be accepted if the bid is opened and the bid is within the funds allocated for the project.

If the lowest and best bid is no more than ten (10) percent above the funds allocated for a construction or renovation project, the board or agent is permitted to negotiate with the lowest bidder to enter a contract not to exceed the funds allocated.

For timely completion of projects or for ready availability, no more than two (2) alternate bids may be accepted. An alternate bid cannot be used unless the lowest and best bid that was accepted, for reasons beyond the bidder's control, cannot deliver the commodities or contract contained in the bid. If the low bidder accepted cannot deliver, one (1) alternate bid can be accepted.

After a construction contract is made and it is determined that contract modifications are necessary or would better serve the purpose, the organization may order the changes without further public bids if the changes are made in a commercially reasonable manner and do not circumvent purchase rules. The engineer or architect hired by the purchaser shall have authority to authorize changes when the change requires expenditures that are less than one (1) percent of the contract amount.

If an emergency situation is determined and the delay caused by the competitive bidding process would be detrimental to the interests of the municipality or the water users, the rules of competitive bidding will not apply and the board or the board's agent can make the purchase or purchases. The purchases can be made only for purchases directly related to the needs of the emergency. The purchaser is responsible for explaining the emergency to the board at the next regular board meeting and documenting the purchases with a description of the item or service along with the appropriate prices and costs. Other rules related to emergencies are normally included in the bylaws of water associations or organizations or the ordinances of the municipalities.

Equipment repairs made in the private sector are excepted from bid requirements unless the repair is for a complete unit such as an engine, a transmission, a rear axle, or other units where the total component replacement is known before disassembly. If repairs are made, the specific repairs, the specific repair part identified by number and name, the supplies used, and the hours of labor and labor costs are required before payment is made.

For municipalities, any motor vehicles or equipment purchased from a federal or state agency at a public auction held for disposing of vehicles or equipment shall require advance authorization including the item or items to be purchased and the maximum bid payments allowed.

All purchases may be made on one (1) purchase order per month to each individual vendor before the delivery of properly requisitioned commodities. Purchases are not valid on the first calendar day of the month following the order. New purchase orders are then required.

Include your lease-purchases and lease-purchase financing in the purchasing policies you develop. Rules regarding lease-purchase bids, financing, interest rates, and terms of payment are regulated for governmental bodies. Lease-purchases are allowed. Generally, you can get lease-purchase financing after having solicited two (2) competitive written bids, and this may occur before or after accepting purchase bids. Interest rates cannot exceed maximum interest rate to maturity on general obligation indebtedness. Terms cannot exceed the useful life of the property as determined by the upper limit of class asset depreciation ranges (ADR) established by IRS.

Purchasing Rules and Ethics

Conflict of interest situations and nepotism rules may prohibit purchasing from certain individuals or companies.

The Mississippi Ethics Commissions governs conflict of interest and nepotism actions of municipalities. The Ethics Commission, on requests from individual municipalities, can grant letter opinions when there are specific ethical questions. These opinions carry legal weight and are used by municipal boards to govern actions related to the opinion. The Mississippi Ethics Commission does not deliver opinions for water associations. Nonprofit associations are governed by nonprofit corporation rules. Directors and board members of municipalities and water associations have laws regarding conflict of interest transactions. In small communities where the only local option available to purchase may involve nepotism or a conflict of interest problems often arise. Take every precaution when purchasing from or when hiring family members of boards of directors. Make sure that these decisions are made under the advisement of the board attorney. Following the Checklist for Purchasing and Contracting Policies on the next two pages is a summary of Mississippi's Purchase Law that governs all bids and contracts. This document is prepared each year by the Office of the State Auditor and may be found at www.osa.ms.gov/downloads.htm

■ Checklist for Purchasing and Contracting Policies ■

Use the following list as you prepare to make purchases and contract for services. Check each box (☑) as you proceed through the process.

- A system for purchasing goods and services has been developed. We used the board attorney to ensure that the system developed follows all the legal directions and mandates of the municipal codes and any other laws that apply to purchasing and contracting.
- We have a board attorney who is capable of verifying our purchasing and contracting policies.
- We have developed purchase forms, contract forms, and all other acquisition forms to be used by the organization for making purchases and contracts. Space has been provided on the forms for
 - product or service requested
 - quantity needed
 - written justification
 - proper signatures
- A board member has been designated with the responsibility of purchases and contracts and with making sure that the rules of the purchase system are followed.
- A purchasing agent has been designated for the organization.
- Approval procedures and authorizations have been established for small purchases and for large purchases. This includes the following:
 - Our reimbursement policy and a description of small purchases that require receipts.
 - A description of purchases where purchase forms are required.
 - A description of purchases and contracts requiring board approval.
 - Proper authorizations
- The specifications for this item or contract, if required, were developed by a certified engineer or architect.
- We follow the purchase system we developed. Municipal purchase systems and associations adopting the municipal codes have to follow specific rules regarding the size of the purchase or contract.
- We know the rules regarding the amount of purchase or contract and know that the amount is
 - three thousand five hundred dollars (\$3,500) or less.
 - from three thousand five hundred dollars up to fifteen thousand dollars (\$3,500 to \$15,000).
 - over fifteen thousand dollars (\$15,000) and for bid openings, over fifteen thousand dollars (\$15,000).
- The required number of bids for the amount of the contract or purchase has been met.
- The bids received were all submitted on a proper bid sheet with the proper signatures.
- The required notices for bids have been posted or published in the local paper for the required number of days.
- The published notice contained the proper information regarding the exact nature of the purchase or project and had reference to the specifications of the job or product.
- The date for opening bids was properly established and met the requirement for the specified number of days between the bid opening and the last published notice.
- If the lowest bid was not accepted, a narrative in writing explains why the bid accepted was the lowest and best

bid. The proper dollar figures are attached, and this information is presented to the board and included in the board minutes.

- Only one bid was received, and it was accepted because it fell within the boundaries of the funds allocated to the project.
- If the best bidder is not able to fulfill a contract, we accept one alternate bid from the only two alternate bids that we allow to be submitted.
- If the lowest bid was within ten (10) percent of the funds allocated for the purchase or project, we negotiated with the low bidder who agreed to accept the allocated funds.
- If after a bid is accepted our engineer determines that some contract modifications would better serve the purpose, we make these changes without public bids if the changes are less than one (1) percent of the contract amount.
- We do not accept any bids that include items not found in the specifications.
- We do not use the normally required bidding process if we are in an emergency situation and it is in the best interest of the public or water users that we do not delay the purchase. We document the emergency, and we purchase only products or services necessary to meet the emergency.
- We make repairs to wells and equipment without soliciting bids, but we do not replace complete units or total components without following bid rules. Repairs are well documented with respect to specifying items or parts, labor hours and costs, and total costs of the project.
- We have guidelines regarding repeated purchases from a vendor. We use one purchase order for purchases made during a month, but new purchase orders are required for a new month.
- We do not solicit bids for projects of one hundred fifty thousand dollars (\$150,000) or more if the contract cannot be started within a 24-month period.
- Where conflict of interest or nepotism questions arise, we contact our attorney before we make any decisions.



**STATE OF MISSISSIPPI
OFFICE OF THE STATE AUDITOR
STACEY E. PICKERING
AUDITOR**



**PURCHASE LAW
SUMMARY
June, 2015**

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PURCHASE LAW OVERVIEW

The following overview begins with a “Table of Contents” to provide the location of specific purchase laws.

Headings have been assigned to untitled sub-sections of the legal text for identification purposes. Notations are provided for reference, emphases, and clarification. Underlines and bold print are for emphases.

The current “Purchase Law Update” may be found at the Mississippi State Auditor’s web site www.osa.ms.gov by selecting “Resources” then “Purchase Law Summary” under the heading “Purchasing”. Actual text of the Mississippi code may be found at the Secretary of State’s web site at www.sos.ms.gov by selecting “Education and Publications”, then “Mississippi Code Search”, and then clicking the link for “Search the Mississippi Code at Michie’s Legal Resources”. Mississippi Attorney General’s opinions may be found at www.ago.state.ms.us by selecting “Opinions Database” and entering search terms.

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DEFINITIONS

ENTITY DEFINITIONS

§ 31-7-1. The following terms are defined for the purpose of this chapter to have the following meanings:

Purpose - To clarify law

- (a) “**Agency**” shall mean any state board, commission, committee, council, university, department or unit thereof created by the Constitution or statutes if such board, commission, committee, council, university, department, unit or the head thereof is authorized to appoint subordinate staff by the Constitution or statute, except a legislative or judicial board, commission, committee, council, department or unit thereof; except a charter school authorized by the Mississippi Charter School Authorizer Board; and except the Mississippi State Port Authority.
- (b) “**Governing authority**” shall mean boards of supervisors, governing boards of all school districts, all boards of directors of public water supply districts, boards of directors of master public water supply districts, municipal public utility commissions, governing authorities of all municipalities, port authorities, Mississippi State Port Authority, commissioners, and boards of trustees of any public hospitals, boards of trustees of public library systems, district attorneys, school attendance officers and any political subdivision of the state supported wholly or in part by public funds of the state or political subdivision thereof, including commissions, boards, and agencies created or operated under the authority of any county or municipality of this state. The term “governing authority” shall not include economic development authorities supported in part by private funds, or commissions appointed to hold title to and oversee the development and management of lands and buildings which are donated by private individuals to the public for the use and benefit of the community and which are supported in part by private funds. The term “governing authority” also shall not include the governing board of a charter school.
- (c) “**Purchasing agent**” shall mean any administrator, superintendent, purchase clerk or other chief officer so designated having general or special authority to negotiate for and make private contract for or purchase for any governing authority or agency.
- (d) “**Public funds**” shall mean and include any appropriated funds, special funds, fees or any other emoluments received by an agency or governing authority.
- (f) The term “**Office of General Services**” shall mean the Department of Finance and Administration. Provided that when purchases are made for the Legislature or functions under its jurisdiction, it shall mean the Legislative Budget Office.

ITEMS COVERED DEFINITIONS

Note

- **Commodities Include Software A.G. 2/29/88, Jeremy J. Eskridge**
 - **Commodities excludes “commodities for resale”**
 - **“Certified Purchasing Office” regulated by Office of Purchasing and Travel, Sec. 31-7-9**
- (e) The word “**commodities**” shall mean and include the various commodities, goods, merchandise, furniture, equipment, automotive equipment of every kind, and other personal property purchased by the agencies of the state and governing authorities, **but not commodities purchased for resale or raw materials converted into products for resale.**
- (i) The term “**equipment**” shall be construed to include: automobiles, trucks, tractors, office appliances and all other equipment of every kind and description.
- (ii) The term “**furniture**” shall be construed to include: desk, chairs, tables, seats, filing cabinets, bookcases and all other items of a similar nature as well as dormitory furniture , appliances, carpets and all other items of personal property generally referred to as home, office, or school furniture.
- (g) “**Construction**” shall mean the process of building, altering, improving, renovating or demolishing a public structure, public building, or other public real property. It does not include routine operation, routine repair or regularly scheduled maintenance of existing public structures, public building or other public real property.
- (h) “**Purchase**” shall mean buying, renting, leasing or otherwise acquiring.
- (i) “**Certified Purchasing Office**” shall mean any purchasing office in which fifty percent (50%) or more of the purchasing agents hold a certification from the University Public Purchasing Certification Council or other nationally recognized purchasing certification and in which, in the case of a state agency purchasing office, in addition to the national certification, one hundred percent (100%) of the purchasing officials hold a certification from the State of Mississippi's Basic or Advanced Purchasing Certification Program.
- (j) “**Certified Mississippi Purchasing Agent**” means a state agency purchasing official who holds a certification from the Mississippi Basic Purchasing Certification Program as established by the Office of Purchasing, Travel and Fleet Management.
- (k) “**Certified Mississippi Procurement Manager**” means a state agency purchasing official who holds a certification from the Mississippi Advanced Purchasing Certification Program as established by the Office of Purchasing, Travel and Fleet Management.

EMERGENCY PURCHASE DEFINITION

Note

- See Sec. 31-7-13 J & K for Procedure

(i) The term “**emergency**” shall mean any circumstances; caused by fire, flood, explosion, storm, earthquake, epidemic, riot, insurrection or caused by any inherent defect due to defective construction, or when the immediate preservation of order or of public health is necessary by reason of unforeseen emergency, or when the immediate restoration of a condition of usefulness of any public building, equipment, road, or bridge appears advisable, or in the case of a public utility when there is a failure of any machine or other thing used and useful in the generation, production or distribution of electricity, water or natural gas, or in the transportation or treatment of sewage; or when the delay incident to obtaining competitive bids could cause adverse impact upon the governing authorities or agency, its employees or its citizens; or in the case of a public airport, when the delay incident to publishing an advertisement for competitive bids would endanger public safety in a specific (not general) manner, result in or perpetuate a specific breach of airport security, or prevent the airport from providing specific air transportation services.

OTHER DEFINITIONS

All definitions essential to purchase law understanding are not listed under the definition law, Section 31-7-1. The following “other” definitions may be found as referenced.

Competitive and Competitive Bid
Lease Purchase Equipment
Minority

-See Section 31-7-13 (b)
-See Sections 31-7-13 (e) & 31-7-10
-See Section 31-7-13 (s)

MAIN PURCHASE LAW

SCOPE OF LAW

- Purpose** -Who and What the Law Applies To
Notes -Excludes Garbage, Sewer & Solid Waste Contracts- See Sec. 31-7-13 (m) (xxii)
-Special Solid Waste Procedure- See Sec. 31-7-13 (r)

§ 31-7-13. All agencies and governing authorities shall purchase their commodities and printing; contract for garbage collection or disposal; contract for solid waste collection or disposal; contract for sewage collection or disposal; contract for public construction; and contract for rentals as herein provided.

(a) BIDDING PROCEDURE FOR PURCHASES NOT OVER \$5,000.00

- Purpose** - Clarify No Bids Required

Purchases which do not involve an expenditure of more than Five Thousand Dollars (\$5,000.00), exclusive of freight or shipping charges, may be made without advertising or otherwise requesting competitive bids. However, nothing contained in this paragraph (a) shall be construed to prohibit any agency or governing authority from establishing procedures which require competitive bids on purchases of Five Thousand Dollars (\$5,000.00) or less.

(b) BIDDING PROCEDURE FOR PURCHASES OVER \$5,000.00 BUT NOT OVER \$50,000.00

- Purpose** -Two Quote Bids Required
Note - Must Document Best Bids – See Sec. 31-7-13 (d)

Purchases which involve an expenditure of more than Five Thousand Dollars (\$5,000.00) but not more than Fifty Thousand Dollars (\$50,000.00), exclusive of freight and shipping charges may be made from the lowest and best bidder without publishing or posting advertisement for bids, provided at least two (2) competitive written bids have been obtained. Any state agency or community/junior college purchasing commodities or procuring construction pursuant to this paragraph (b) may authorize its purchasing agent, or his designee, to accept the lowest competitive written bid under Fifty Thousand Dollars (\$50,000.00). Any governing authority purchasing commodities pursuant to this paragraph (b) may authorize its purchasing agent, or his designee, with regard to governing authorities other than counties, or its purchase clerk, or his designee, with regard to counties, to accept the lowest and best competitive written bid. Such authorization shall be made in writing by the governing authority and shall be maintained on file in the primary office of the agency and recorded in the official minutes of the governing authority, as appropriate. The purchasing agent or the purchase clerk, or their designee, as the case may be, and not the governing authority, shall be liable for any penalties and/or damages as may be imposed by law for any act or omission of the purchasing agent or

purchase clerk, or their designee, constituting a violation of law in accepting any bid without approval by the governing authority. The term “competitive written bid” shall mean a bid submitted on a bid form furnished by the buying agency or governing authority and signed by authorized personnel representing the vendor, or a bid submitted on a vendor's letterhead or identifiable bid form and signed by authorized personnel representing the vendor.

“**Competitive**” shall mean that the bids are developed based upon comparable identification of the needs and are developed independently and without knowledge of other bids or prospective bids. Any bid item for construction in excess of Five Thousand Dollars (\$5,000.00) shall be broken down by components to provide detail of component description and pricing. These details shall be submitted with the written bids and become part of the bid evaluation criteria. Bids may be submitted by facsimile, electronic mail or other generally accepted method of information distribution. Bids submitted by electronic transmission shall not require the signature of the vendor’s representative unless required by agencies or governing authorities.

(c) BIDDING PROCEDURE FOR PURCHASES OVER \$50,000.00

Purpose	-Advertising For Bids Required
Advertising Notes	-If No Bids Received, Must Rebid A.G. 9/23/92, William R. Schneller -May Not Count Day Of Publication Or Day Of Opening When Calculating Bid Opening Date A.G. 9/12/88, Pete McGee -Designee May Open Bid A.G. 12/15/93, Thomas H. Dyson

(i) PUBLICATION REQUIREMENT

1. Purchases which involve an expenditure of more than Fifty Thousand Dollars (\$50,000.00), exclusive of freight and shipping charges, may be made from the lowest and best bidder after advertising for competitive bids once each week for two (2) consecutive weeks in a regular newspaper published in the county or municipality in which such agency or governing authority is located. However, all American Recovery and Reinvestment Act projects in excess of Twenty-five Thousand Dollars (\$25,000.00) shall be bid.

2. The purchasing entity may designate the method by which the bids will be received, including but not limited to, bids sealed in an envelope, bids received electronically in a secure system, bids received via a reverse auction, or bids received by any other method that promotes open competition and has been approved by the Office of Purchase and Travel. However, reverse auction shall not be used for any public contract for design or construction of public facilities, including buildings, roads and bridges.

3. The date as published for the bid opening shall not be less than seven (7) working days after the last published notice; however, if the purchase involves a construction project in which the estimated cost is in excess of Fifty Thousand Dollars (\$50,000.00), such bids shall not be opened in less than fifteen (15) working days after the last notice is published and the notice for the purchase of such construction shall be published once each week for two (2) consecutive

weeks. However, all American Recovery and Reinvestment Act projects in excess of Twenty-five Thousand Dollars (\$25,000.00) shall be bid. For any projects in excess of Twenty-five Thousand Dollars (\$25,000.00) under the American Recovery and Reinvestment Act, publication shall be made one (1) time and the bid opening for construction projects shall not be less than ten (10) working days after the date of the published notice. The notice of intention to let contracts or purchase equipment shall state the time and place at which bids shall be received, list the contracts to be made or types of equipment or supplies to be purchased, and, if all plans and/or specifications are not published, refer to the plans and/or specifications on file. If there is no newspaper published in the county or municipality, then such notice shall be given by posting same at the courthouse, or for municipalities at the city hall, and at two (2) other public places in the county or municipality, and also by publication once each week for two (2) consecutive weeks in some newspaper having a general circulation in the county or municipality in the above provided manner. On the same date that the notice is submitted to the newspaper for publication, the agency or governing authority involved shall mail written notice to or provide electronic notification to the main office of the Mississippi Procurement Technical Assistance Program under the Mississippi Development Authority that contains the same information as that in the published notice. Submissions received by the Mississippi Procurement Technical Assistance Program for projects funded by the American Recovery and Reinvestment Act shall be displayed on a separate and unique Internet Web page accessible to the public and maintained by the Mississippi Development Authority for the Mississippi Procurement Technical Assistance Program. Those American Recovery and Reinvestment Act related submissions shall be publicly posted within twenty-four (24) hours of receipt by the Mississippi Development Authority and the bid opening shall not occur until the submission has been posted for ten (10) consecutive days. The Department of Finance and Administration shall maintain information regarding contracts and other expenditures from the American Recovery and Reinvestment Act, on a unique Internet Web page accessible to the public. The Department of Finance and Administration shall promulgate rules regarding format, content and deadlines, unless otherwise specified by law, of the posting of award notices, contract execution and subsequent amendments, links to the contract documents, expenditures against the awarded contracts and general expenditures of funds from the American Recovery and Reinvestment Act. Within one (1) working day of the contract award, the agency or governing authority shall post to the designated Web page maintained by the Department of Finance and Administration, notice of the award, including the award recipient, the contract amount, and a brief summary of the contract in accordance with rules promulgated by the department. Within one (1) working day of the contract execution, the agency or governing authority shall post to the designated Web page maintained by the Department of Finance and Administration a summary of the executed contract and make a copy of the appropriately redacted contract documents available for linking to the designated Web page in accordance with the rules promulgated by the department. The information provided by the

agency or governing authority shall be posted to the Web page for the duration of the American Recovery and Reinvestment Act funding or until the project is completed, whichever is longer.

Note

Notice Information

Effective November 1, 2012, all bid advertisements should be submitted on the NEW agency bid bank webpage. Please visit <http://mscpc.com> and select [Agency Bid Bank](#). After completing the User Registration, you will have the ability to manage your user profile, upload and post current bid advertisements and solicitations as well as receive an automated receipt acknowledgment with actual date, bid title and/or number.

Please be advised that bid advertisements will NO longer be accepted at bids@mississippi.org.

If you have any questions regarding the implementation of this process or other related questions or comments please contact the Bid Management Clerk, LaTisha Landing, at 601-359-2910.

(ii) BIDDING PROCESS AMENDMENT PROCEDURE

If all plans and/or specification are published in the notification, then the plans and/or specifications may not be amended. If all plans and/or specifications are not published in the notification, then amendments to the plans/specifications, bid opening date, bid opening time and place may be made, provided that the agency or governing authority maintains a list of all prospective bidders who are known to have received a copy of the bid documents and all such prospective bidders are sent copies of all amendments. This notification of amendments may be made via mail, facsimile, electronic mail or other generally accepted method of information distribution. No addendum to bid specification may be issued within two (2) working days of the time established for the receipt of bids unless such addendum also amends the bid opening to a date not less than five (5) working days after the date of the addendum.

(iii) FILING REQUIREMENT.

In all cases involving governing authorities, before the notice shall be published or posted, the plans or specifications for the construction or equipment being sought shall be filed with the clerk of the board of the governing authority. In addition to these requirements, a bid file shall be established which shall indicate those vendors to whom such solicitations and specifications were issued, and such file shall also contain such information as is pertinent to the bid.

(iv) SPECIFICATIONS RESTRICTIONS

**Notes -May Specify Lease Purchase, or Other Best Bid Information
-Software Must be Bid, Specifications May be Restrictive Since It is Not Equipment**

-May Not Waive Specifications that Affect the Competitiveness of the Bid Process

-May Specify Used Equipment by Maximum Age, Miles, Hours, etc.

1. Specifications pertinent to such bidding shall be written so as not to exclude comparable equipment of domestic manufacture. However, if valid justification be presented, the Department of Finance and Administration or the board of a governing authority may approve a request for specific equipment necessary to perform a specific job. Further, such justification, when placed on the minutes of the board of a governing authority, may serve as authority for that governing authority to write specifications to require a specific item of equipment needed to perform a specific job. In addition to these requirements, from and after July 1, 1990, vendors of relocatable classrooms and the specifications for the purchase of such relocatable classrooms published by local school boards shall meet all pertinent regulations of the State Board of Education, including prior approval of such bid by the State Department of Education.

2. Specifications for construction projects may include an allowance for commodities, equipment, furniture, construction materials or systems in which prospective bidders are instructed to include in their bids specified amounts for such items so long as the allowance items are acquired by the vendor in a commercially reasonable manner and approved by the agency/governing authority. Such acquisitions shall not be made to circumvent the public purchasing laws.

(v) ELECTRONIC BIDS

Agencies and governing authorities may establish secure procedures by which bids may be submitted via electronic means.

(d) LOWEST AND BEST BID DECISION PROCEDURE

(i) DECISION PROCEDURE.

Notes - Best Bid Documentation Requirement – All Purchases

- Only Low Bidder May Lower Bid A.G. 9/10/79, C. Ray Scales, Jr.

Purchases may be made from the lowest and best bidder. In determining the lowest and best bid, freight and shipping charges shall be included. Life-cycle costing, total cost bids, warranties, guaranteed buy-back provisions and other relevant provisions may be included in the best bid calculation. All best bid procedures for state agencies must be in compliance with regulations established by the Department of Finance and Administration. If any governing authority accepts a bid other than the lowest bid actually submitted, it shall place on its minutes detailed calculations and narrative summary showing that the accepted bid was determined to be the lowest and best bid, including the dollar amount of the accepted bid and the dollar amount of the lowest bid.

No agency or governing authority shall accept a bid based on items not included in the specifications.

(ii) DECISION PROCEDURE FOR CERTIFIED PURCHASING OFFICES

In addition to the decision procedure set forth in paragraph (d) (i), Certified Purchasing Offices may also use the following procedure: Purchases may be made from the bidder offering the best value. In determining the best value bid, freight and shipping charges shall be included. Life-cycle costing, total cost bids, warranties, guaranteed buy-back provisions, documented previous experience, training costs and other relevant provisions including, but not limited to, a bidder having a local office and inventory located within the jurisdiction of the governing authority, may be included in the best value calculation. This provision shall authorize certified Purchasing Offices to utilize a Request For Proposals (RFP) process when purchasing commodities. All best value procedures for state agencies must be in compliance with regulations established by the Department of Finance and Administration. No agency or governing authority shall accept a bid based on items or criteria not included in the specifications.

(iii) DECISION PROCEDURE FOR MISSISSIPPI LANDMARKS.

In addition to the decision procedure set forth in paragraph (d)(i), where purchase involves renovation, restoration, or both, of the State Capitol Building or any other historical building designated for at least five (5) years as a Mississippi Landmark by the Board of Trustees of the Department of Archives and History under the authority of Sections 39-7-7 and 39-7-11, the agency or governing authority may use the following procedure: Purchases may be made from the lowest and best prequalified bidder. Prequalification of bidders shall be determined not less than fifteen (15) working days before the first published notice of bid opening. Prequalification criteria shall be limited to bidder's knowledge and experience in historical restoration, preservation and renovation. In determining the lowest and best bid, freight and shipping charges shall be included. Life-cycle costing, total cost bids, warranties, guaranteed buy-back provisions and other relevant provisions may be included in the best bid calculation. All best bid and prequalification procedures for state agencies must be in compliance with regulations established by the Department of Finance and Administration. If any governing authority accepts a bid other than the lowest bid actually submitted, it shall place on its minutes detailed calculations and narrative summary showing that the accepted bid was determined to be the lowest and best bid, including the dollar amount of the accepted bid and the dollar amount of the lowest bid. No agency or governing authority shall accept a bid based on items not included in the specifications.

(iv) CONSTRUCTION PROJECT NEGOTIATIONS AUTHORITY.

Notes - Best Bid Negotiations- Construction Only
- May Negotiate Specifications- A.G. 9/19/97, Danny Guice, Jr.

If the lowest and best bid is not more than ten percent (10%) above the amount of funds allocated for a public construction or renovation project, then the agency or governing authority shall be permitted to negotiate with the lowest bidder in order to enter into a contract for an amount not to exceed the funds allocated.

(e) LEASE PURCHASE AUTHORIZATION

Purpose - An Authority to Lease Purchase

Notes - Not an Exemption from Bidding

- **School Buses Must Also Comply with §37-41-101, A.G. 4/23/01, Richard L. Thompson**

- **May Refinance A.G. 3/31/93, W.J. Gamble III**

Definition

For the purpose of this section, the term “equipment” shall mean equipment, furniture and, if applicable, associated software and other applicable direct costs associated with the acquisition.

Authority

Any lease-purchase of equipment which an agency is not required to lease-purchase under the master lease-program pursuant to Section 31-7-10 and any lease-purchase of equipment which a governing authority elects to lease-purchase may be acquired by lease-purchase agreement under this paragraph (e).

Alternative Financing Provision

Lease-purchase financing may also be obtained from the vendor or from a third-party source after having solicited and obtained at least (2) written competitive bids, as defined in paragraph (b) of this section, for such financing, without advertising for such bids. Solicitation for the bids for financing may occur before or after acceptance of bids for the purchase of such equipment or, where no such bids for purchase are required, at any time before the purchase thereof.

Maximum Interest Rate (11%)

No such lease-purchasing agreement shall be for an annual rate of interest which is greater than the overall maximum interest rate to maturity on general obligation indebtedness permitted under Section 75-17-101, and

Maximum length of Lease

The term of such lease-purchase agreement shall not exceed the useful life of property covered thereby as determined according to the upper limit of the asset depreciation range (ADR) guidelines for the Class Life Asset Depreciation Range System established by the Internal Revenue Service pursuant to the United States Internal Revenue Code and regulations thereunder as in effect on December 31, 1980, or comparable depreciation guidelines with respect to any equipment not

covered by ADR guidelines. Any lease-purchase agreement entered into pursuant to this paragraph (e) may contain any of the terms and conditions which a master lease-purchases agreement may contain under the provisions of Section 31-7-10(5),

Lease Dependency Clause (canceled if not budgeted)

A lease-purchase agreement shall contain an annual allocation dependency clause substantially similar to that set forth in Section 31-7-10(8).

Record Requirement

Each agency or governing authority entering into a lease-purchase transaction pursuant to this paragraph (e) shall maintain with respect to each such lease-purchase transaction the same information as required to be maintained by the Department of Finance and Administration pursuant to Section 31-7-10 (13).

State Agency Limit (does not limit Governing Authorities)

However, nothing contained in this section shall be construed to permit agencies to acquire items of equipment with a total acquisition cost in the aggregate of less than Ten Thousand Dollars (\$10,000.00) by a single lease-purchase transaction.

Tax Exemption

All equipment and the purchase thereof by any lessor, acquired by lease-purchase under this paragraph and all lease-purchase payments with respect thereto shall be exempt from all Mississippi sales, use and ad valorem taxes. Interest paid on any lease-purchase agreement under this section shall be exempt from State of Mississippi income taxation.

(f) ALTERNATE BID AUTHORIZATION- Governing Authorities Only

Purpose -Authority and Procedure

When necessary to ensure ready availability of commodities for public works and the timely completion of public projects, no more than two (2) alternate bids may be accepted by a governing authority for commodities. No purchases may be made through use of such alternate bids procedures unless the lowest and best bidder cannot deliver the commodities contained in his bid. In that event, purchases of such commodities may be made from one (1) of the bidders whose bid was accepted as an alternate.

(g) CONSTRUCTION CONTRACT CHANGE AUTHORIZATION

Purpose-Authority to Make

- Notes -Must Record on Minutes A.G. 9/12/97, Timothy Havard**
- Can't Make Retroactive A.G. 7/15/93, C.R. Montgomery**
- Can't Allow Prior to Contract A.G. 1/25/89, Tim Hancock**
- Within Scope of Original Contract & Reasonable A.G. 9/17/99, Williamson**

In the event a determination is made by an agency or governing authority after a construction contract is let that changes or modifications to the original contract are necessary or would better serve the purpose of the agency or the governing authority, such agency or governing authority may, in its discretion, order such changes pertaining to the construction that are necessary under the circumstances without the necessity of further public bids; provided that such change shall be made in a commercially reasonable manner and shall not be made to circumvent the public purchasing statutes.

Delegation of Authority to Change Contract

In addition to any other authorized person, the architect or engineer hired by an agency or governing authority with respect to any public construction contract shall have the authority, when granted by an agency or governing authority, to authorize changes or modifications to the original contract without the necessity of prior approval of the agency or governing authority when any such change or modification is less than one percent (1%) of the total contract amount. The agency of governing authority may limit the number, manner or frequency of such emergency changes or modifications.

(h) PETROLEUM PURCHASE ALTERNATIVE

Purpose- Alternate Procedure

Note - See “Fuel Management Systems” - Sec. 31-7-13 (q)

In addition to other methods of purchasing authorized in this chapter, when any agency or governing authority shall have a need for gas, diesel fuel, oils and/or other petroleum products in excess of the amount set forth in paragraph (a) of this section, such agency or governing authority may purchase the commodity after having solicited and obtained at least two (2) competitive written bids, as defined in paragraph (b) of this section. If two (2) competitive written bids are not obtained the entity shall comply with the procedures set forth in paragraph (c) of this section. In the event any agency or governing authority shall have advertised for bids for the purchase of gas, diesel fuel, oils and other petroleum products and coal and no acceptable bids can be obtained, such agency or governing authority is authorized and directed to enter into any negotiations necessary to secure the lowest and best contract available for the purchase of such commodities.

(i) ROAD CONSTRUCTION PETROLEUM PRODUCTS PRICE ADJUSTMENT CLAUSE AUTHORIZATION

Purpose- Alternate Procedure

Any agency or governing authority authorized to enter into contracts for the construction, maintenance, surfacing or repair of highways, roads or streets, may

include in its bid proposal and contract documents a price adjustment clause with relation to the cost to the contractor, including taxes, based upon an industry-wide cost index, of petroleum products including asphalt used in the performance or execution of the contract or in the production or manufacture of materials for use in such performance. Such industry- wide index shall be established and published monthly by the State Department of Transportation with a copy thereof to be mailed, upon request, to the clerks of the governing authority of each municipality and the clerks of each board of supervisors throughout the state. The price adjustment clause shall be based on the cost of such petroleum products only and shall not include any additional profit or overhead as part of the adjustment. The bid proposals or document contract shall contain the basis and methods of adjusting unit prices for the change in the cost of such petroleum products.

(j) STATE AGENCY EMERGENCY PURCHASE PROCEDURE

Purpose- No Time for Bid Procedure

Notes - For Emergency Definition See Sec. 31-7-1 (f)

- Commodities and Repairs Only (Construction Only as a Repair)

If the governing board or the executive head, or his designees, of any agency of the state shall determine that an emergency exists in regard to the purchase of any commodities or repair contracts, so that the delay incident to giving opportunity for competitive bidding would be detrimental to the interests of the state, then the head of such agency, or his designees, shall file with the Department of Finance and Administration (i) a statement explaining the conditions and circumstances of the emergency, which shall include a detailed description of the events leading up to the situation and the negative impact to the entity if the purchase is made following the statutory requirements set forth in paragraph (a), (b) or (c) of this section, and (ii) a certified copy of the appropriate minutes of the board of such agency requesting the emergency purchase, if applicable. Upon receipt of the statement and applicable board certification, the State Fiscal Officer, or his designees, may, in writing, authorize the purchase or repair without having to comply with competitive bidding requirements.

If the governing board or the executive head, or his designees, of any agency determines that an emergency exists in regard to the purchase of any commodities or repair contracts, so that the delay incident to giving opportunity for competitive bidding would threaten the health or safety of any person, or the preservation or protection of property, then the provisions in this section for competitive bidding shall not apply, and any officer or agent of the agency having general or specific authority for making the purchase or repair contract shall approve the bill presented for payment, and he shall certify in writing from whom the purchase was made, or with whom the repair contract was made.

Total purchases made under this paragraph (j) shall only be for the purpose of

meeting needs created by the emergency situation. Following the emergency purchase, documentation of the purchase, including a description of the commodity purchased, the purchase price thereof and the nature of the emergency shall be filed with the Department of Finance and Administration.

(k) GOVERNING AUTHORITY EMERGENCY PURCHASE PROCEDURE

Purpose- No Time for Bid Procedure

Notes - For Emergency Definition See Sec. 31-7-1 (f)

- Commodities and Repairs Only (Construction Only as a Repair)

If the governing authority, or the governing authority acting through its designee, shall determine that an emergency exists in regard to the purchase of any commodities or repair contracts, so that the delay incident to giving opportunity for competitive bidding would be detrimental to the interest of the governing authority, then the provisions herein for competitive bidding shall not apply and any officer or agent of such governing authority having general or special authority thereof in making such purchase or repair shall approve the bill presented therefor, and he shall certify in writing thereon from whom such purchase was made, or with whom such a repair contract was made. At the board meeting next following the emergency purchase or repair contract, documentation of the purchase or repair contract, including a description of the commodity purchased, the price thereof and the nature of the emergency shall be presented to the board and shall be placed on the minutes of the board of such governing authority.

(l) HOSPITAL PURCHASE OR LEASE AUTHORIZATION

Purpose- Lease or Purchase Obligation Authority

Note - See related laws Sec. 31-7-13 (m)(xxviii) & (m)(x) and Sec. 31-7-38

- (i) The commissioners or board of trustees of any public hospital may contract with such lowest and best bidder for the purchase or lease-purchase of any commodity under a contract of purchase or lease-purchase agreement whose obligatory payment terms do not exceed five (5) years.
- (ii) In addition to the authority granted in subparagraph (i) of this paragraph (l), the commissioners or board of trustees are authorized to enter into contracts for the lease of equipment or services, or both, which it considers necessary for the proper care of patients if, in its opinion, it is not financially feasible to purchase the necessary equipment or services. Any such contract for the lease of equipment or services executed by the commissioners or board shall not exceed a maximum of five (5) years' duration and shall include a cancellation clause based on unavailability of funds. If such cancellation clause is exercised, there shall be no further liability on the part of the lessee. Any such contract for the lease of equipment or services executed on behalf of the

commissioners or board that complies with the provisions of this subparagraph (ii) shall be excepted from the bid requirements set forth in this section.

EXCEPTIONS FROM BIDDING REQUIREMENTS

Purpose- To Allow Exceptions to Bidding under Special Circumstances

Notes- See Sec. 31-9-9 For Exception on State Surplus Property Purchase

- See Sec. 31-7-1 (e) For Exception on Commodities Purchased for Resale

(m) Excepted from bid requirements are:

- (i) **PURCHASING AGREEMENTS APPROVED BY D.F.A.
[STATE CONTRACTS- See Sec. 31-7-12 for Particulars]**

Purchasing agreements, contracts, and maximum price regulations executed or approved by the Department of Finance and Administration.

- (ii) **OUTSIDE EQUIPMENT REPAIRS. [Except Entire Assemblies]**

Repairs to equipment, when such repairs are made by repair facilities in the private sector; however, engines, transmissions, rear axles and/or other such components shall not be included in this exemption when replaced as a complete unit instead of being repaired and the need or such total component replacement is known before disassembly of the component; however, invoices identifying the equipment, specific repairs made, parts identified by number and name, supplies used in such repairs, and the number of hours of labor and costs therefore shall be required for the payment for such repairs.

- (iii) **IN HOUSE EQUIPMENT REPAIRS. [Except Entire Assemblies]**

Purchases of parts for repairs to equipment, when such repairs are made by personnel of the agency or governing authority; however, entire assemblies, such as engines or transmissions, shall not be included in this exemption when the entire assembly is being replaced instead of being repaired.

- (iv) **RAW GRAVEL OR DIRT.**

Raw unprocessed deposits of gravel or fill dirt which are to be removed and transported by the purchaser.

- (v) **GOVERNMENTAL EQUIPMENT AUCTIONS.**

Motor vehicles or other equipment purchased from a federal agency or authority, another governing authority or state agency of the State of Mississippi, or any

governing authority or state agency of another state at a public auction held for the purpose of disposing of such vehicles or other equipment. Any purchase by a governing authority, under the exemption authorized by this paragraph (v) shall require advance authorization spread upon the minutes of the governing authority to include the listing of the item or items authorized to be purchased and the maximum bid authorized to be paid for each item or items.

(vi) INTERGOVERNMENTAL SALES AND TRANSFERS.
[By Negotiation Only]
[Allows Donations- A.G. 12/12/97 John B. Toney]

Purchases, sales, transfers or trades by governing authorities or state agencies when such purchases, sales, transfers or trades are made by a private treaty agreement or through means of negotiation, from any federal agency or authority, another governing authority or state agency of the State of Mississippi, or any state agency or governing authority of another state. Nothing in this section shall permit such purchases through public auction except as provided for in paragraph (v) of this section. It is the intent of this section to allow governmental entities to dispose of and/or purchase commodities from other governmental entities at the price that is agreed to by both parties. This shall allow for purchases and/or sale at prices which may be determined to be below the market value if the selling entity determines that the sale at below market value is in the best interest of the taxpayers of the state. Governing authorities shall place the terms of the agreement and any justification on the minutes, and state agencies shall obtain approval for the Department of Finance and Administration, prior to releasing or taking possession of the commodities.

(vii) PERISHABLE SUPPLIES OR FOOD.
[Perishables Only A.G. 3/19/92 Wilbur O. Colom]

Perishable supplies or foods purchased for use in connection with hospitals, the school lunch programs, homemaking programs and for the feeding of county or municipal prisoners.

(viii) SINGLE SOLE SOURCE ITEMS

Noncompetitive items available from one (1) source only. In connection with the purchase of noncompetitive items only available from one (1) source, a certification of the conditions and circumstances requiring the purchase shall be filed by the agency with the Department of Finance and Administration and by the governing authority with the board of the governing authority. Upon receipt of such certification the Department of Finance and Administration or the board of the governing authority, as the case may be, may, in writing, authorize the purchase, which authority shall be noted on the minutes of the body at the next regular meeting thereafter. In such situations, a governing authority is not required to obtain the approval of the Department of Finance and Administration.

Following the purchase, the executive head of the state agency, or his designees, shall file with the Department of Finance and Administration, documentation of the purchase, including a description of the commodity purchased, the purchase price thereof and the source from whom it was purchased.

**(ix) WASTE DISPOSAL FACILITY CONSTRUCTION CONTRACTS
[Proposals Required]**

Construction of incinerators and other facilities for disposal of solid waste in which products either generated therein, such as steam, or recovered therefrom, such as materials for recycling, are to be sold or otherwise disposed of; however, in constructing such facilities a governing authority or agency shall publicly issue requests for proposals, advertised for in the same manner as provided herein for seeking bids for public construction projects, concerning the design, construction, ownership, operation and/or maintenance of such facilities, wherein such requests for proposals when issued shall contain terms and conditions relating to price, financial responsibility, technology, environmental compatibility, legal responsibilities and such other matters as are determined by the governing authority or agency to be appropriate for inclusion; and after responses to the request for proposals have been duly received, the governing authority or agency may select the most qualified proposal or proposals on the basis of price, technology and other relevant factors and from such proposals, but not limited to the terms thereof, negotiate and enter contracts with one or more of the persons or firms submitting proposals.

(x) HOSPITAL GROUP PURCHASE CONTRACTS.

Supplies, commodities and equipment purchased by hospitals through group programs pursuant to Section 31-7-38.

**(xi) INFORMATION TECHNOLOGY PRODUCTS [ITS Contracts]
[Renamed- Previously Central Data Processing Authority (CDPA)]
[Agencies Must Purchase Under ITS rules and Sections 25-53-5 & 25-53-123]
[Junior Colleges Are Subject To ITS Agency Rules for EDP Equipment
Purchased with local Ad Valorem Funds, A.G. 10/4/02 David Litchliter and
Wayne Stonecypher]
[ITS Offers an “Express Products List” For Quick Limited Purchases]**

Purchases of information technology products made by governing authorities under the provisions of purchase schedules, or contracts executed or approved by the Mississippi Department of Information Technology Services and designated for use by governing authorities.

(xii) ENERGY EFFICIENCY SERVICES AND EQUIPMENT.

Energy efficiency services and equipment acquired by school districts, junior

colleges, institutions of higher learning and state agencies or other applicable governmental entities on a shared-savings, lease or lease purchase basis pursuant to Section 31-7-14.

(xiii) MUNICIPAL ELECTRICAL UTILITY SYSTEM FUEL.

Purchase of coal and/ or natural gas by municipally- owned electric power generating systems that have the capacity to use both coal and natural gas for the generation of electric power.

(xiv) LIBRARY BOOKS AND OTHER REFERENCE MATERIALS.

Purchases by libraries or for libraries of books and periodicals; processed film, video cassette tapes, filmstrips and slides; recorded audio tapes, cassettes and diskettes; and any such items as would be used for teaching, research or other information distribution; however, equipment such as projectors, records, or video equipment, and monitor televisions are not exempt under this subparagraph.

**(xv) UNMARKED VEHICLES.
[For Bureau of Narcotics and Department of Public Safety Only]**

Purchases of unmarked vehicles when such purchases are made in accordance with purchasing regulations adopted by the Department of Finance and Administration pursuant to Section 31-7-9(2).

(xvi) ELECTION BALLOTS.

Purchase of ballots printed pursuant to Section 23-15-351.

(xvii) MULTICHANNEL INTERACTIVE VIDEO SYSTEMS.

From and after July 1, 1990, contracts by Mississippi Authority for Educational Television with any private educational institution or private nonprofit organization whose purpose are educational in regard to the construction, purchase, lease or lease-purchase of facilities and equipment and the employment of personnel for providing multichannel interactive video systems (ITSF) in the school districts of this state.

**(xviii) PURCHASES OF PRISON INDUSTRY PRODUCTS.
[MDOC, Regional/Private Prisons Only]**

Purchases made by the Mississippi Department of Corrections, regional correctional facilities or privately owned prisons involving any item that is manufactured, processed, grown, or produced from the state's prison industries. (Limited to MDOC & regional/private prisons effective July 1, 2013. Allowed by state agencies and governing authorities prior to July 1, 2013.)

(xix) UNDERCOVER OPERATIONS EQUIPMENT. [Law Enforcement Only]

Purchases of surveillance equipment or any other high-tech equipment to be used by law enforcement agents in undercover operations, provided that any such purchase shall be in compliance with regulations established by the Department of Finance and Administration.

(xx) JUNIOR COLLEGE BOOKS FOR RENT.

Purchases by community or junior colleges of textbooks which are obtained for the purpose of renting such books to students as part of a book service system.

(xxi) CERTAIN SCHOOL DISTRICT PURCHASES.

Purchases of commodities made by school districts from vendors with which any levying authority of the school district, as defined in Section 37-5-1, has contracted through competitive bidding procedures for purchases of the same commodities.

**(xxii) GARBAGE, SOLID WASTE, AND SEWAGE CONTRACTS.
[Proposals Required- Sec. 31-7-13 (r)]**

Contracts for garbage collection or disposal, contracts for solid waste collection or disposal and contracts for sewage collection or disposal.

(xxiii) MUNICIPAL WATER TANK MAINTENANCE CONTRACTS.

Professional maintenance program contracts for the repair or maintenance of municipal water tanks, which provide professional services needed to maintain municipal water storage tanks for a fixed annual fee for a duration of two (2) or more years.

(xxiv) PURCHASES OF MISSISSIPPI INDUSTRY FOR THE BLIND PRODUCTS.

[Agencies must, when feasible, purchase from Mississippi Industries for the Blind - §31-7-15]

Purchases made by state agencies or governing authorities involving any item that is manufactured, processed or produced by the Mississippi Industries for the Blind.

(xxv) PURCHASES OF STATE ADOPTED TEXTBOOKS.

Purchases of state-adopted textbooks by public school districts.

(xxvi) CERTAIN PURCHASES UNDER THE MISSISSIPPI MAJOR ECONOMIC IMPACT ACT.

Contracts entered into pursuant to the provisions of Section 57-75-9 (2) and (3).

(xxvii) USED HEAVY OR SPECIALIZED MACHINERY OR EQUIPMENT FOR INSTALLATION OF SOIL AND WATER CONSERVATION PRACTICES PURCHASED AT AUCTION.

Used heavy or specialized machinery or equipment used for the installation and implementation of soil and water conservation practices or measures purchased subject to the restrictions provided in Sections 69-27-331 through 69-27-341. Any purchase by the State Soil and Water Conservation Commission under the exemption authorized by the subparagraph shall require advance authorization spread upon the minutes of the commission to include the listing of the item or items authorized to be purchased and the maximum bid authorized to be paid for each item or items.

(xxviii) HOSPITAL LEASE OF EQUIPMENT OR SERVICES.

Leases by hospitals of equipment or services if the leases are in compliance with paragraph (1)(ii).

(xxix) PURCHASES MADE PURSUANT TO QUALIFIED COOPERATIVE PURCHASING AGREEMENTS.

Purchases made by certified purchasing offices of state agencies or governing authorities under cooperative purchasing agreements previously approved by the Office of the Purchasing and Travel and established by or for any municipality, county, parish, or state government or the federal government, provided that the notification to potential contractors includes a clause that sets forth the availability of the cooperative purchasing agreement to other governmental entities. Such purchases shall only be made if the use of the cooperative purchasing agreements is determined to be in the best interest of the governmental entity.

(xxx) SCHOOL YEAR BOOKS.

Purchases of school yearbooks by state agencies or governing authorities; provided, however, that state agencies and governing authorities shall use for these purchases the RFP process as set forth in the Mississippi Procurement Manual adopted by the Office of Purchase and Travel.

(xxxi) DESIGN-BUILD METHOD AND DUAL-PHASE DESIGN-BUILD METHOD OF CONTRACTING.

Contracts entered into under the provisions of Section 31-7-13.1, 37-101-44 or 65-1-85.

(xxxii) TOLL ROADS AND BRIDGE CONSTRUCTION PROJECTS.

Contracts entered into under the provisions of Section 65-43-1 or 65-43-3.

(xxxiii) CERTAIN PURCHASES UNDER 57-1-221.

Contracts entered into pursuant to the provisions of Section 57-1-221.

(xxxiv) CERTAIN TRANSFERS MADE PURSUANT TO THE PROVISIONS OF SECTION 57-105-1(7).

Transfers of public property or facilities under Section 57-105-1(7) and construction related to such public property or facilities.

(xxxv) CERTAIN PURCHASES OR TRANSFERS ENTERED INTO WITH LOCAL ELECTRICAL POWER ASSOCIATIONS. [State Parks]

Contracts or agreements entered into under the provisions of Section 55-3-33.

(n) TERM CONTRACT AUTHORIZATION.

Purpose- Contract for Unlimited Purchases

All Contracts for the Purchase Of:

General Term contracts

(i) All contracts for the purchase of commodities, equipment and public construction (including, but not limited to, repair and maintenance), may be let for periods of not more than sixty (60) months in advance, subject to applicable statutory provisions prohibiting the letting of contracts during specified periods near the end of terms of office. Term contracts for a period exceeding twenty-four (24) months shall also be subject to ratification or cancellation by governing authority boards taking office subsequent to the governing authority board entering the contract.

Term Contracts with Price Adjustment Clauses

(ii) Bid proposals and contracts may include price adjustment clauses with relation to the cost to the contractor based upon a nationally published industry- wide or nationally published and recognized cost index. The cost index used in a price adjustment clause shall be determined by the Department of Finance and Administration for the state

agencies and by the governing board for governing authorities. The bid proposal and contract documents utilizing a price adjustment clause shall contain the basis and method of adjusting unit prices for the change in the cost of such commodities, equipment and public construction.

(o) PURCHASE LAW VIOLATION PROHIBITION AND VENDOR PENALTY.

Purpose- Prohibits Circumvention and Invoice Splitting

Note- Imposes Penalty on Vendor

No contract or purchase as herein authorized shall be made for the purpose of circumventing the provisions of this section requiring competitive bids, nor shall it be lawful for any person or concern to submit individual invoices for amounts within those authorized for a contract or purchase where the actual value of the contract of commodity purchased exceeds the authorized amount and the invoices shall constitute a misdemeanor punishable by a fine of not less than Five Hundred Dollars (\$500.00) nor more than One Thousand Dollars (1,000.00), or by imprisonment for thirty (30) days in the county jail, or both such fine and imprisonment. In addition, the claim or claims submitted shall be forfeited.

(p) ELECTRICAL UTILITY PETROLEUM- BASED EQUIPMENT PURCHASE PROCEDURE.

Purpose- Price Variations Due to Petroleum Content

When in response to a proper advertisement thereof, no bid firm as to price is submitted to an electric utility for power transformers, distribution transformers, power breakers, reclosers or other articles containing a petroleum product, the electric utility may accept the lowest and best bid although the price is not firm.

(q) FUEL MANAGEMENT SYSTEM BIDDING PROCEDURE.

Purpose- Bidding This Service, Regardless of Purchase Amounts

**Note- See Sec. 31-7-13 (h) For Contracts with Individual Purchases Over \$5,000
- State Contract May Be Available, See Sec. 31-7-12**

Any governing authority or agency of the state shall, before contracting for the services and products of a fuel management of fuel access system, enter into negotiations with not fewer than two (2) sellers of fuel management or fuel access systems for competitive written bids to provide the service and products for the systems. In the event that the governing authority or agency cannot locate two (2) sellers of such systems or cannot obtain bids from two (2) sellers of such systems, it shall show proof that it made a diligent, good-faith effort to locate and negotiate with two (2) sellers of such systems. Such proof shall include but not be limited to publications of a request for proposals and letters soliciting negotiations and bids. For purposes of this paragraph (s), a fuel management or fuel access system is an automated system of acquiring fuel for vehicles as well as

management reports detailing fuel use by vehicles and drivers, and the term “competitive written bid” shall have meaning as defined in paragraph (b) of this section. Governing authorities and agencies shall be exempt from this process when contracting for the services and products of fuel management or fuel access systems under the terms of a state contract established by the Office of Purchasing and Travel.

(r) SOLID WASTE CONTRACTS PROPOSAL PROCEDURE.

Purpose- To Require For This Service

Note - See Sec. 31-7-13 (m) (xxii) For Routine Bid Requirement Deletion

Before entering into any contract for garbage collection or disposal, contract for solid waste collection or disposal or contract for sewage collection or disposal, which involves an expenditure of more than Fifty Thousand Dollars (\$50,000.00), a governing authority or agency shall issue publicly a request for proposals concerning the specifications for such services which shall be advertised for in the same manner as provided in this section for seeking bids for purchases which involve an expenditure of more than the amount provided in paragraph (c) of this section. Any request for proposals when issued shall contain terms and conditions relating to price, financial responsibility, technology, legal responsibilities and other relevant factors as are determined by the governing authority or agency to be appropriate for inclusion; all factors determined relevant by the governing authority or agency or required by this paragraph (r) shall be duly included in the advertisement to elicit proposals. After responses to the request for proposals have been duly received, the governing authority or agency shall select the most qualified proposal or proposals on the basis of price, technology and other relevant factors and from such proposals, but not limited to the terms thereof, negotiate and enter contracts with one or more of the persons or firms submitting proposals. If the governing authority or agency deems none of the proposals to be qualified or otherwise acceptable, the request for proposals process may be reinitiated. Notwithstanding any other provisions of this paragraph, where a county with at least thirty-five thousand (35,000) nor more than forty thousand (40,000) population, according to the 1990 federal decennial census, owns or operates a solid waste landfill, the governing authorities of any other county or municipality may contract with the governing authorities of the county owning or operating the landfill, pursuant to a resolution duly adopted and spread upon the minutes of each governing authority involved, for garbage or solid waste collection or disposal services through contract negotiations.

(s) MINORITY SET ASIDE AUTHORIZATION.

Purpose- Allow Purchase Set Asides

Note - Subject To DFA Regulation

- Does Not Include Women

-Disparity Study Required to be Constitutional per MS Supreme Court

Notwithstanding any provision of this section to the contrary, any agency or governing authority, by order placed on its minutes, may, in its discretion, set aside not more than twenty percent (20%) of its anticipated annual expenditures for the purchase of commodities from minority businesses; however, all such set-aside purchases shall comply with all purchasing regulations promulgated by the Department of Finance and Administration and shall be subject to bid requirements under this section. Set-aside purchases for which competitive bids are required shall be made from the lowest and best minority business bidder. For the purpose of this paragraph, the term “minority business” means a business which is owned by a majority of persons who are United States citizens or permanent resident aliens (as defined by the Immigration and Naturalization Service) of the United States, and who are Asian, Black, Hispanic, and Native American, according to the following definitions:

(i) “Asian” means persons having origins in any of the original people of the Far East, Southeast, Asia, the Indian subcontinent, or the Pacific Islands.

(ii) “Black” means persons having origins in any black racial group of Africa.

(iii) “Hispanic” means persons of Spanish or Portuguese culture with origins in Mexico, South or Central America, or the Caribbean Islands, regardless of race.

(iv) “Native American” means persons having origins in any or the original people of North America, including American Indians, Eskimos and Aleuts.

(t) CONSTRUCTION PUNCH LIST RESTRICTION.

Purpose- Limits Number of “List Of Problems To Correct”

The architect, engineer or other representative designated by the agency or governing authority that is contracting for public construction or renovation may prepare and submit to the contractor only one (1) preliminary punch list of items that do not meet the contract requirements at the time of substantial completion and one (1) final list immediately before final completion and final payment.

(u) PROCUREMENT OF CONSTRUCTION SERVICES BY STATE INSTITUTIONS OF HIGHER LEARNING

Purpose – To clarify privately funded IHL construction project bid requirements

Contracts for privately financed construction of auxiliary facilities on the campus of a state institution of higher learning may be awarded by the Board of Trustees of State Institutions of Higher Learning to the lowest and best bidder, where sealed bids are solicited, or to the offeror whose proposal is determined to represent the best value to the citizens of Mississippi, where requests for proposals are solicited.

(v) INSURABILITY OF BIDDERS FOR PUBLIC CONSTRUCTION OR OTHER PUBLIC CONTRACTS.

Purpose – To no longer require bidders to purchase insurance in order to submit a bid, with proof of insurance required within 5 business days of bid acceptance

In any solicitation for bids to perform public construction or other public contracts to which this section applies including, but not limited to, contracts for repair and maintenance, for which the contract will require insurance coverage in an amount of not less than One Million Dollars (\$1,000,000.00), bidders shall be permitted to either submit proof of current insurance coverage in the specified amount or demonstrate ability to obtain the required coverage amount of insurance if the contract is awarded to the bidder. Proof of insurance coverage shall be submitted within five (5) business days from bid acceptance.

(w) PURCHASE AUTHORIZATION CLARIFICATION.

Nothing in this section shall be construed as authorizing any purchase not authorized by law.

SPECIAL LAWS

STATE CONTRACTS: §31-7-12

STATE AGENCIES- MANDATORY USE PROVISION

Purpose- State Agencies Must Use State Contracts

(1) Except in regard to purchases of unmarked vehicles made in accordance with purchasing regulations adopted by the Department of Finance and Administration pursuant to Section 31-7-9 (2), all agencies shall purchase commodities at the state contract price from the approved source, unless approval is granted by the Department of Finance and Administration to solicit purchases outside the terms of the contracts; however, prices accepted by an agency shall be less than the prices set by the state contract. Prices accepted by an agency shall be obtained in compliance with paragraph (a), (b), or (c) of Section 31-7-13. It shall be the responsibility of the Department of Finance and Administration to ascertain that the resulting prices provide a cost effective alternative to the established state contract.

GOVERNING AUTHORITIES

Purpose - Optional Use Authority Without Bidding

**Note - May Buy From Anyone Selling Exact Same Item For Same or Less Price
- Does Not Include ITS (EPL) Contracts – See Sec. 31-7-13(m)(xi)**

(2) Governing authorities may purchase commodities approved by the Department of Finance and Administration from the state contract vendor, or from any source offering the identical commodity, at a price not exceeding the state contract price established by the Department of Finance and Administration for such commodity, without obtaining or advertising for competitive bids. Governing authorities that do not exercise the option to purchase such commodities from the state contract vendor or from another source offering the identical commodity at a price not exceeding the state contract price established by the Department of Finance and Administration shall make such purchases pursuant to the provisions of Section 31-7-13 without regard to state contract prices established by the Department of Finance and Administration, unless such purchases are authorized to be made under subsection (5) of this section.

Purpose- Clarification of Governing Authority Optional Use

(3) Nothing in this section shall prohibit governing authorities from purchasing, pursuant to subsection (2) of this section, commodities approved by the Department of Finance and Administration at a price not exceeding the state contract price established by the Department of Finance and Administration.

Purpose- Clarification That Items Not On State Contract Must Be Bid

(4) The Department of Finance and Administration shall ensure that the prices of all commodities on the state contract are the lowest and best prices available from any source offering that commodity at the same level of quality or service, utilizing the reasonable standards established thereof by the Department of Finance and Administration. If the Department of Finance and Administration does not list an approved price for the particular item involved, purchase shall be made according to statutory bidding and licensing requirements. To encourage prudent purchasing practices, the Department of Finance and Administration shall be authorized and empowered to exempt certain commodities from the requirement that the lowest and best price be approved by order placed on its minutes.

Purpose- County/City Contracts May Be Used By Schools

(5) Any school district may purchase commodities from vendors with which any levying authority of the school district, as defined in Section 37-57-1, has contracted through competitive bidding procedures pursuant to Section 31-7-13 for purchase of the same commodities. Purchases authorized by this subsection may be made by a school district without obtaining or advertising for competitive bids, and such purchases shall be made at the same prices under the same conditions as purchases of the same commodities are to be made by the levying authority of the school district under the contract with the vendor.

MOTOR VEHICLE LOCAL PREFERENCE: § 31-7-18

Purpose- Allows Qualified Local Bid Preference Procedure

Note -Advertising For Bids Is Required

Purchase of certain motor vehicles. In addition to the method of purchasing authorized in this chapter, governing authorities are hereby authorized to accept the lowest bid received from a motor vehicle dealer domiciled within the county of governing authority for the purchase of any vehicle having gross vehicle weight rating of less than twenty-six thousand (26,000) pounds that shall not exceed a sum equal to three percent (3%) greater than the price or cost which the dealer pays the manufacturer, as evidenced by the factory invoice for the motor vehicle.

In the event said county does not have an authorized motor vehicle dealer, said board or governing authority may, in like manner, receive bids from motor vehicle dealers in any adjoining county.

No purchase of a motor vehicle under the provisions of this section shall be valid unless the purchase is made according to statutory bidding and licensing requirements. Provided, however, that the governing authorities may choose to purchase a motor vehicle from the authorized state contract dealer without having to advertise and receive bids therefore.

No purchase shall be made in excess of the approved state contract price by any of the aforementioned governing authorities when such authorities are situated wholly or in part in the county wherein the authorized state contract dealer for a particular item is domiciled.

ENERGY EFFICIENCY CONTRACTS: § 31-7-14

Purpose- To authorize a Request for Proposals (RFP) process for obtaining energy efficiency equipment and services

An entity may enter into a lease, energy services contract, energy performance contract, shared savings contract, or lease-purchase contracts for energy efficiency equipment, services relating to the installation, operation and maintenance of equipment or improvements reasonably required to existing or new equipment and existing or new improvements and facilities.

"Energy services" or "energy efficient services" means energy efficiency equipment, services relating to the installation, operation and maintenance of equipment and improvements reasonably required to existing or new equipment and existing or new improvements and facilities, also including alternative fuel vehicles and ancillary equipment.

Acquisition is by RFP. The term of any lease or lease-purchase agreement for energy efficiency services and/or equipment entered into under this section shall not exceed twenty (20) years, commencing on the completion of the installation of equipment or improvements under the contract.

RECIPROCAL PREFERENCE LAW: § 31-7-47

Purpose- To Allow Miss. Bidders Preference

Note - Limited to Reverse of Other Bidders State/Local Law

- Out of State Bidders of Construction Contracts Over \$50,000 Must Provide a Copy of Their State's Preference Law – Sec. 31-3-21

In the letting of public contracts, preference shall be given to resident contractors, and a nonresident bidder domiciled in a state, city, county, parish, province, nation, or political subdivision having laws granting preference to local contractors shall be awarded Mississippi public contracts only on the same basis as the nonresident bidder's state, city, county, parish, province, nation or political subdivision awards contracts to Mississippi contractors bidding under similar circumstances. Resident contractors actually domiciled in Mississippi, be they corporate, individuals or partnerships, are to be granted preference over nonresidents in awarding of contracts in the same manner and to the same extent as provided by the laws of the state, city, county, parish, province, nation or political subdivision of domicile of the nonresident.

CONSTRUCTION CONTRACTS:

Purpose- Special Provisions for Construction and Public Works

Note - Reference Only, See Cited Laws for Specific Requirements

1.
 - A. **Performance Bonds- Section 31-5-51** requires bond for faithful performance in an amount not less than the contract.
 - B. **Payment Bonds- Section 31-5-51** requires bond for each person for labor and materials used in the job in an amount not less than the contract.
 - C. **Liability Insurance- Section 31-5-51** requires general liability insurance prior to any state agency contract in excess of \$25,000 or governing authority contract in excess of \$25,000, for coverage in an amount not less than \$1,000,000.
2. **Certificate of Responsibility – Section 31-3-21**
Contractors of public projects in excess of \$50,000 must have a “Certificate of Responsibility.” All bids for such projects must show the certificate number on the face of the bid envelope.
3. **Professional Engineering and Architectural Services- Section 73-13-45**
A licensed engineer or architect is required to prepare the specifications and estimates, and to supervise the work of public works contracts in excess of \$75,000. Such services are only required for in house public work in excess of \$150,000.
4. **Bid Bonds**
Bid Bonds are not required by law, but may be required by local policy.

PENALTIES:

Purpose- To Enforce Compliance

1. Criminal

- Section 31-7-55 - Basic Violation
- Section 31-7-23 - Kickbacks
- Section 31-7-13 (o) - Vendors (Invoice Splitting)

2. Civil

- Section 31-7-57 - Basic Liability
- Section 31-7-57 (2) - Interpreted by A.G. 2/21/89 C. R. Montgomery that a good faith vendor is entitled to payment. A court order is required.

Section VIII: Reports and Assessments

Public Water Supply Annual Report

Name of Public Water Supply: _____

Public Water Supply (PWS) ID Number: _____ County: _____

Official Public Water Supply Information

Name of Legally Responsible Official: _____ Title: _____
(President, Mayor, Owner, Manager, etc.)

Email Address: _____

Legally Responsible Official: Home Phone: (____) _____ Work: (____) _____ Cell/Emergency: (____) _____

Water Supply Business Phone Number (8 a.m. - 5 p.m.): (____) _____ Fax: (____) _____

Business Email Address: _____

Legally Responsible
Official Mailing Address: _____
(Post Office Box/Street) (City) (State) (Zip Code)

Water Supply Physical Address: _____
(Street Address ONLY) (City) (State) (Zip Code)

Bacteriological Mail Back Address: _____
(Name) (Post Office Box/Street) (City) (State) (Zip Code)

Delivery Address *(Cannot be a Post Office Box. Used for shipment of water sampling containers by commercial shipper.)*

Delivery Address: _____
(Street/Rural Route) (City) (State) (Zip Code)

Water Superintendent/Waterworks Operator (To be completed by the person who directly supervises and is personally responsible for the daily operation and maintenance of this public water system. For community and non-transient non-community public water systems, this person must be certified by the Bureau of Public Water Supply, Mississippi State Department of Health.)

Name: _____ / _____ / _____
(MSDH Certificate No.) (Expiration Date)

I hereby certify that I am the person who directly supervises and is personally responsible for the daily operation and maintenance of this public water system and I do hold a valid Certificate of Competency as required by Sections 21-27-201 through 21-27-211, Mississippi Code of 1972 Annotated. I further certify that my personal residence is within 50 miles of this public water supply.

Signature of Operator: _____ Date: ____/____/____

Public Water System Connection/Population Data

(Used to calculate the annual water quality analysis fee.)

Number of Metered Connections: _____ Number of Unmetered Connections: _____

Population Served: _____

I hereby certify that the above named individual is officially employed by this public water system as the certified waterworks operator as required by Mississippi state law (Sections 21-27-201 through 21-27-211, Mississippi Code of 1972 Annotated). I further certify that all other information provided on this form is true and accurate and that I understand that false statements on this form will place this public water system in violation of the Federal and Mississippi Safe Drinking Water Acts and potentially subject water system officials to administrative penalties up to \$25,000 per day of violation.

Signature of Legally Responsible Official: _____ Date: ____/____/____

**** Mail to Bureau of Public Water Supply, Post Office Box 1700, Jackson, Mississippi 39215-1700****

*White Copy - Training & Certification
Yellow Copy - Water System*

Mississippi State Department of Health

Revised 1-26-10

Form No. 903 E

2006 Consumer Confidence Report

Town of Puckett

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

Our water comes from one well that draws water from the Sparta Aquifer.

Source water assessment and its availability

Our source water assessment has been completed and is available for review. Please contact our office for a copy.

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791).

How can I get involved?

We meet the first Thursday of each month at 7:00 p.m. at the town hall.

Water Quality Data Table

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

<u>Contaminants</u>	<u>MCLG or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Your Water</u>	<u>Range Low High</u>	<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
Disinfectants & Disinfection By-Products							
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)							
TTHMs [Total Trihalomethanes] (ppb)	NA	80	14.3	NA	2004	No	By-product of drinking water disinfection
Inorganic Contaminants							
Barium (ppm)	2	2	0.002	NA	2006	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Unit Descriptions	
<u>Term</u>	<u>Definition</u>
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions	
<u>Term</u>	<u>Definition</u>
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

For more information please contact:

Russ Espiritu
 Address:
 P. O. Box 130
 Puckett, MS 39151
 601-269-3232

2009 Drinking Water Quality Report

Is my water safe?

Last year, we conducted tests for over 80 contaminants. We only detected 4 of those contaminants, and found only 1 at a level higher than the EPA allows. As we told you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.) This report is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with information because informed customers are our best allies.

Do I need to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

Our water comes from 2 deep wells located in the Upper Meridian Aquifer.

Source water assessment and its availability

Our source water assessment has been completed. Our wells were ranked "low" in terms of susceptibility to contamination. For a copy of the report, please contact our office at 601.576.7518.

Why are there contaminants in my drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances

resulting from the presence of animals or from human activity:

microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

Please join us for our monthly meetings on the first Thursday of each month at our office on 570 East Woodrow Wilson. Meetings begin at 6:30 p.m.

Additional Information for Lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. ABC Water Association is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>. The Mississippi State Department of Health Public Health Laboratory offers lead testing for \$10 per sample. Please contact 601.576.7582 if you wish to have your water tested.

Water Quality Data Table

The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this

table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

<u>Contaminants</u>	<u>MCLG Or MRDLG</u>	<u>MCL, TT, or MRDL</u>	<u>Your Water</u>	<u>Range Low High</u>	<u>Sample Date</u>	<u>Violation</u>	<u>Typical Source</u>
Disinfectants & Disinfection By-Products							
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.)							
Chlorine (as Cl ₂) (ppm)	4	4	0.8	0.5 1	2009	No	Water additive used to control microbes
Inorganic Contaminants							
Arsenic (ppb)	0	10	1.39	NA	2007	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	1	NA	2007	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Microbiological Contaminants							
Total Coliform (positive samples/month)	0	1	2	NA	2009	Yes	Naturally present in the environment
<u>Contaminants</u>	<u>MCLG</u>	<u>AL</u>	<u>Your Water</u>	<u>Sample Date</u>	<u># Samples Exceeding AL</u>	<u>Exceeds AL</u>	<u>Typical Source</u>
Inorganic Contaminants							
Lead - action level at consumer taps (ppb)	0	15	12	2009	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Unit Descriptions							
<u>Term</u>	<u>Definition</u>						
Ppm	ppm: parts per million, or milligrams per liter (mg/L)						
Ppb	ppb: parts per billion, or micrograms per liter (µg/L)						
positive samples/month	positive samples/month: Number of samples taken monthly that were found to be positive						
NA	NA: not applicable						
ND	ND: Not detected						
NR	NR: Monitoring not required, but recommended.						

Important Drinking Water Definitions

Term	Definition
MCLG	MCLG: Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	MRDL: Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

Violations and Exceedances

Total Coliform

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. The violation occurred in March 2009. It was resolved within one week. For each detect of total coliform, additional samples were collected at the sites where total coliform was detected, upstream of each site and downstream of each site. Results showed all samples free of total coliform; however, it was noted that the chlorine residual in this area was lower than usual. The amount of chlorine was increased to insure an adequate residual was maintained.

For more information please contact:

Jon Doe
123 Oak Street
Jackson MS 39215

601-576-0000
601-576-0001
jdoe@abcwater.com
www.ABCH2O.com

**STATE OF MISSISSIPPI
PUBLIC WATER SYSTEMS CAPACITY
DEVELOPMENT PROGRAM**

TRIENNIAL REPORT TO THE GOVERNOR

Submitted To

Governor Phil Bryant

By

**Mississippi State Department of Health
Office of Health Protection
Bureau of Public Water Supply**

September 2014

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State of Mississippi
Public Water Systems Capacity Development Program
Triennial Report to the Governor

Mississippi State Department of Health
Office of Health Protection
Bureau of Public Water Supply

INTRODUCTION

The Federal Safe Drinking Water Act Amendment of 1996 (SDWA) established the national Drinking Water State Revolving Fund (DWSRF) Program. The program allows the Environmental Protection Agency (EPA) to make capitalization grants to states who in turn provide low cost loans to public water systems which helps them to achieve or maintain compliance with SDWA requirements. Accordingly, the State Legislature in the 1995 Regular Session (through Section 41-3-16, MS Code of 1972 Annotated) created what is now called the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program, to receive the federal DWSRF capitalization grants from EPA. The Program provides low cost loans to the public water systems to finance needed infrastructure improvements.

As a condition of receiving the DWSRF capitalization grants, the SDWA requires each state to implement a "Capacity Development Program" to improve the technical, managerial, and financial capacity of the state's existing public water systems and to prevent the creation of new public water systems that do not have the capacity to comply with current and future provisions of the SDWA. This report describes Mississippi's Capacity Development Program and outlines the implementation results since the last Report to the Governor in 2011. Submission of this report represents a reporting milestone required by EPA to avoid withholdings from the FFY-2015 DWSRF capitalization grant.

NEW PUBLIC WATER SYSTEMS' CAPACITY DEVELOPMENT

To comply with the capacity development requirements of the SDWA for new systems, the State Legislature enacted the Mississippi Safe Drinking Water Act (Section 41-26-8, MS Code of 1972 Annotated) to require that all new community and non-transient non-community public water systems be approved by the Mississippi State Department of Health (MSDH) prior to beginning construction. During the review/approval process, MSDH is required to ensure that each proposed new Community and Non-Transient, Non-Community public water system has the technical and operational capacity to comply with all SDWA requirements. This process is effectively the Program's first "control point," or point at which the State can exercise authority to ensure the demonstration of a newly proposed system's capacity to serve its customers from the *technical* side. Another control point created by the State Law's revision is the requirement that, prior to approving a new public water system, MSDH must have written certification from the Executive Director of Mississippi's Public Utilities staff that the new water system has the *managerial* and *financial* capacity to comply with all SDWA

requirements. There have been no changes in the State's legal authority or control points since the inception of the Capacity Development Program.

EXISTING PUBLIC WATER SYSTEMS' CAPACITY DEVELOPMENT

Implementation of a capacity development program for existing public water systems is a much more difficult task than it is for new public water systems. The State of Mississippi has approximately 1,227 public water systems that are subject to the requirements of the SDWA. Since Mississippi is a rural state, the vast majority of these systems are small with limited financial resources. It is therefore impossible to develop a mandatory program in the State that would solely force all these small systems to immediately make the necessary capital improvements to achieve the technical, managerial, and financial capacity needed to comply with the SDWA. However, recent additions to the SDWA, such as the Ground Water Rule, have forced small systems to make necessary improvements, be on a state approved timeline to make needed improvements or consolidate their system with other surrounding systems. Regardless, the method implemented by MSDH consists primarily of two components: 1) stringent enforcement of existing laws and regulations, and 2) implementation of a capacity assessment rating system and technical assistance procedures.

ENFORCEMENT - MSDH stringently enforces the water supply laws and regulations, such as those related to: 1) SDWA water quality standards, 2) waterworks operator certification, 3) overloaded water systems, 4) corrosion control treatment facilities, 5) cross-connection control, and 6) water system board member training. By strictly enforcing these laws and regulations, MSDH helps ensure that a safe supply of drinking water is provided. Strict enforcement also encourages water systems without adequate capacity to seek alternate methods of compliance, including the pursuit of mergers with neighboring viable water systems. In most cases, these mergers (or "consolidations") result in the creation of much more viable public water systems in the capacity assessment categories.

CAPACITY ASSESSMENT - MSDH has developed a Capacity Assessment Rating Program to rate the capacity of existing systems. The technical, managerial, and financial capacity of each public water system is rated annually during inspections conducted by MSDH regional engineering staff. The maximum rating possible is "5.0", and a rating of "0.0" is the minimum. The rating is determined using Capacity Assessment Forms (CAFs), which consist of three major sections: 1) Technical, 2) Managerial, and 3) Financial. Each section includes key questions designed to identify those tasks that a public water system must routinely accomplish in order to demonstrate their capacity to comply with all current and proposed requirements of the SDWA and Mississippi's Safe Drinking Water Act.

The CAFs are developed by MSDH in conjunction with an Advisory Committee consisting of representatives of stakeholder organizations such as the Mississippi Rural Water Association; the Mississippi Municipal League; the Mississippi Water & Pollution Control Operators' Association; Community Resource Group (CRG) - Rural Community Assistance Program; Mississippi Development Authority; Public Service Commission, etc., as well as selected water system managers and operators from throughout the State. Each year, prior to the annual Advisory Committee meeting (typically held in the last quarter of the state fiscal year), the MSDH staff reviews and evaluates the program, discusses the strengths, weaknesses, and any related problems which may have arisen during the fiscal year. The staff then recommends changes to be considered by the Advisory Committee. Later at the Advisory Committee meeting, the recommended changes are presented for their review and comment.

Additional suggestions may be offered during the course of the meeting beyond initial staff recommendations. At the conclusion of the meeting, MSDH, using the Advisory Committee's suggestions, makes changes as needed to the Program's strategy for the following year's CAFs.

In April 2014, the Advisory Committee met to discuss the overall performance of the current capacity development/implementation strategy. Based on input from this year's Advisory Committee meeting, it was decided that the capacity assessment in its current form should not change for SFY-2015.

Appendix A contains copies of the three CAFs used during SFY-2014. Included are the: 1) Standard Form – used for community public water systems; 2) Private Form – used for public water systems that are owned by private investors; and 3) Non-Transient Non-Community Form – used for public water systems that provide water to 25 or more of the same individuals, in a non-residential manner, on a daily basis (schools, industries, etc.). At this time a capacity assessment for systems meeting the definition of a Transient Non-Community public water supply is not required or performed.

TECHNICAL ASSISTANCE – One of the major advantages of the MSDH Capacity Assessment Rating is its ability to aid the department in identifying public water systems that are at risk of becoming unable to provide safe adequate drinking water to their customers. Once systems are shown to have low capacity, efforts are made to provide assistance to improve the systems within the limits of funding. Through grants from EPA, the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program funds, the Small System Technical Assistance Set-Aside, and the State Program Management Set-Aside. DWSIRLF technical assistance providers and the Bureau of Public Water Supply Staff provide technical assistance at no cost to at-risk water systems.

Technical assistance can take several forms which allow the water system recipients options to improve their technical, financial, and managerial capabilities. The set-asides have provided MSDH the ability to contract with technical assistance providers such as Community Resource Group (CRG), Mississippi Rural Water Association (MsRWA), and the Mississippi State University Extension Service (MSU-ES). The technical assistance providers are able to provide specialized assistance beyond which the MSDH Bureau of Public Water Supply staff can provide. The assistance includes: 1) Comprehensive and Intermediate Technical Assistance provided by CRG; 2) Board Management Training Coordination provided by MSU-ES; 3) Hands-On Operator Training provided by MsRWA; and 4) PEER Review Program provided by both MSU-ES and MsRWA. These programs have an impact on a system's ability to obtain or remain in compliance with the SDWA.

Annually MSDH determines which public water systems are in the most need of assistance. Based on the previous year's capacity assessment scores and SDWA violations, the comprehensive and intermediate technical assistance contractor and the PEER review program are provided a list of systems to contact to offer assistance. Periodic reports are provided by the contractors to MSDH to confirm that the assistance being provided is benefitting the public water supplies of Mississippi.

The Comprehensive and Intermediate technical assistance provided through CRG allows the water system officials and staff to receive one-on-one assistance to improve their overall capacity ratings. This type of technical assistance is not voluntary. MSDH provides a list of the poorest performing systems. The listed water systems receive a letter notifying them of their selection for technical assistance. Refusing the assistance may affect future compliance actions that may be taken on that

system, if warranted, by the Compliance and Enforcement Branch of MSDH. The assistance provided is specific and specialized, based on the water supply's needs. It could take the form of obtaining new management policies, financial budgeting, or operational improvements. MSDH Regional Engineering staff may recommend additional water systems for assistance that they deem are in need of technical assistance; CRG then performs an assessment of the system by meeting with the officials and operator. After the assessment, CRG develops a specialized task list of assistance for the system. After MSDH's approval of the list, CRG, in cooperation with the system, proceeds to execute the identified tasks. If the system is selected for comprehensive assistance, they can potentially receive the assistance throughout the year. In these instances, it is necessary to ensure that certain policies are implemented, management adjustments are made, and CRG follows the changes throughout the improvement process. Selected intermediate systems are usually identified as having one or two major issues that can be resolved in considerably less time.

The PEER Review program provides improved technical operations to the water supply staff through peer-to-peer interaction. The voluntary program pairs selected water system operators with other water system operators to assist them in preparing for annual MSDH inspections. Similar to comprehensive and intermediate technical assistance, MSDH provides MsRWA, the present technical assistance contractor; a list of poorly performing systems having Capacity Assessment scores less than 3.0. The technical assistance contractor contacts those referred systems by letter to determine their interest in participating in the PEER Review Program. To ensure that the assistance will have the greatest impact, contact is made with the system's responsible officials as well as the certified operator. Additionally, the technical assistance contractor also advertises the benefits of the PEER Review Program at various trade shows and in publications throughout the year. A water system desiring a PEER Review makes contact with the contractor's personnel, who in turn, coordinate a meeting for all parties involved, including at a minimum the operators on the PEER Review team, the water system operator, and the responsible official(s). At that meeting, all components of the capacity assessment are performed, including an onsite inspection of the water system itself. Additionally, the PEER Review team looks beyond the standard capacity assessment by reviewing other technical, managerial, and financial aspects not previously evaluated. The team also brings each of their unique operational/managerial styles and experience due to the fact they have encountered many of the same problems. The team approach to problem solving provides an additional boost in capacity assessment areas thereby providing increased operational efficiency, managerial stability, and financial solvency. Shortly after the review is completed, a report by the PEER Review team is generated outlining the issues raised at the meeting, including suggestions for possible improvements that could be made for the benefit of the water system and its users. Whereas the comprehensive and intermediate assistance emphasizes managerial and financial components, the PEER Review Program primarily emphasizes technical components while providing limited managerial and financial assistance.

The Board Management Training Program for Water System Officials assists newly elected water system board members in meeting the requirements of the state law. This law requires board management training for all newly elected water system board members of private, non-profit water supplies and officials of municipal systems with a population of 10,000 and less. Mississippi State University Extension Service (MSU-ES), the present contractor, coordinates with the selected training partners, to provide training throughout the state to these public water system officials. Board officials are given training that outlines their duties in managing and overseeing the operation of a public water system and their responsibilities under state law. This training allows the new board members to have

the management skills necessary to effectively fulfill their duties. The program is in the process of exploring the possibility of providing the required training in an online format so as to be more accommodating for the busy schedules that board member may have. That opportunity should be available within the next year.

The Hands-On Operator Training, conducted by MsRWA, the present contractor, provides small system operators specialized “hands-on” training and skills they need in order to better operate their water systems on a daily basis. Some operators, especially new ones, may not have all the needed hands-on skills in order to effectively operate the water system. The training sessions, held throughout the State, provide participants with experience in actual hands-on skills such as meter repair, chlorinator repair, fire hydrant maintenance, leak detection, etc. The operators’ newly acquired skills could lead to potential cost savings to the water system, since operators learn how to make repairs themselves rather than having to hire specialized help.

MSDH has noted significant improvements to the water systems the implementation of the assistance programs.

Comprehensive and Intermediate Assistance:

In SFY-2012 Community Resource Group (CRG) provided long-term comprehensive assistance and intermediate assistance to public water systems, which resulted in an average capacity assessment improvement of 1.36 points, specific results are as follows:

Mount Olive Water Association	Improved from 0.67 to 5.0
City of Ripley	Improved from 2.0 to 4.67
Kessler Air Force Base	Improved by 3.0 points
Thrasher Water Association	Improved by 0.33 to 4.67 over two years

The Towns of Como, Shuqualak & Alligator improved their rankings by 2.67 points over two years

In SFY-2013 Community Resource Group (CRG) provided long-term comprehensive assistance to 13 public water systems and intermediate assistance to 15 public water systems. This resulted in an average capacity assessment improvement of 1.20 points after comprehensive assistance was received.

Tallula Utility District	Improved from 1.67 to 4.3
Town of Fayette	Improved from 2.0 to 3.3
City of Schlater	Improved from 2.7 to 4.0
Town of Gunnison	Improved from 2.67 to 3.33
Walnut Hill Water Association	Improved from 2.0 to 3.0
East Pontotoc Water Association	Improved from 2.67 to 3.3
Escatawpa Utility District	Improved from 2.67 to 4.0

In SFY-2014 Community Resource Group (CRG) provided long-term comprehensive assistance to 10 public water systems and intermediate assistance to 10 public water systems. The following is a list of

the systems receiving assistance in SFY-2014 with their previous and present year's scores; some additional follow-up will be necessary:

Systems Receiving Comprehensive Assistance	Previous Year's Score & Current Year's Score
Meadville, Town of (Franklin Co.)	Improved from 4.67 to 5.00
NE Itawamba Water Association (Itawamba Co.)	Declined from 3.67 to 3.33
CCM Water Association (Chickasaw Co.)	No Change 3.67 and 3.67
Coles Water Association (Amite Co.)	Improved from 4.00 to 4.33
Plum Point Water & Sewer (Panola County)	Improved from 1.00 to 2.00
Walnut Hill Water Association (Panola Co.)	Improved from 3.00 to 3.33
Deerwood Utilities (Harrison Co.)	Improved from 3.00 to 3.67
Palmer Creek Utility Association (Harrison Co.)	Improved from 3.33 to 3.67
Lumberton, Town of (Lamar Co.)	Improved from 3.33 to 5.00
Eden, Town of (Yazoo Co.)	Improved from 3.33 to 4.00

Systems Receiving Intermediate Assistance	Previous Year's Score & Current Year's Score
Bolivar County Port Commission (Bolivar Co.)	No Change 5.00 and 5.00
Moss Point, City of (Jackson Co.)	Improved from 4.00 to 5.00
Central Yazoo Water Association (Yazoo Co.)	No Change 5.00 and 5.00
Hermanville Water Association (Claiborne Co.)	No Change 3.67 and 3.67
C.S. & I. Water Association (Claiborne Co.)	Improved from 4.00 to 5.00
Lexie Water Association (Walthall Co.)	No Change 5.00 and 5.00
Webb, Town of (Tallahatchie Co.)	No Change 3.33 and 3.33
Bay Springs, Town of (Jasper Co.)	Improved from 4.33 to 4.67
Montrose, Town of (Jasper Co.)	No Change 5.00 and 5.00
Summit, Town of (Pike Co.)	Declined from 3.67 to 3.33

PEER Review Assistance:

Since the inception of the Peer review program in 2002, one hundred ninety-nine (199) PEER Reviews have been conducted in the State through the end of the SFY-2014 reporting period. All the systems which have participated so far have received improvements in their Post Review Average Rating.

In SFY-2012 twenty (20) reviews were conducted. When the systems' Post Review Capacity Ratings were completed, the reviewed systems showed an average increase in their Capacity Assessment scores of 0.41 points. The systems increased from an average of 2.39 to 2.80, with the highest individual increase being 2.0.

In SFY-2013 twenty (20) reviews were conducted. When the systems Post Review Capacity Rating were completed, the reviewed systems increased from an average Initial Rating of 2.36 to a Post

Review average Rating of 3.16 or an overall Capacity Rating Increase of 0.84, with the highest individual increase being 2.6; this system went from a 1.7 rating to a 4.3 rating.

In SFY-2014 sixteen (16) reviews were conducted. It will take approximately one year until the next annual review by the MSDH to determine the results of the assistance provided to all the public water systems in SFY-2014; however, for those systems which had reviews completed at the beginning of the year and have since been reviewed or inspected by MSDH, the results are as follows:

Review ID.	Score Before Review	Score After Review	Increase
PR 1	2.33	3.66	1.33
PR 2	1.66	2.33	0.67
PR 3	2.66	3.33	0.67
PR 4	2.66	4.00	1.34
PR 6	0.50	2.50	2.00

The contractor for this program provides both monthly and quarterly reports of their activities including specific redacted reports of the individual PEER Reviews.

Board Management Training Program for Water System Officials:

In SFY-2012, Mississippi State University Extension Service (MSU-ES), the coordination contractor, successfully administrated 21 training sessions for the Board Management Training Program to water system officials around the state. Two hundred and ninety (290) board members and managers representing 180 public water supplies attended the sessions. These individuals received training in the various technical and management skills necessary to effectively fulfill their duties as board members and officials of a public water system.

In SFY-2013, Mississippi State University Extension Service successfully administrated 13 training sessions for 216 board members and managers; this represented 119 public water supplies around the state.

In SFY-2014, Mississippi State University Extension Service successfully administrated 16 sessions around the state and trained 429 board members and managers, which represented 235 public water supplies.

Most assuredly having system officials knowledgeable of the laws, regulations and requirements of how a system should be managed helps the overall operation of the public water supply program.

MSDH has found that the majority of public water systems are making efforts to improve even though the Capacity Development Program for existing systems is not mandatory. There are no specific penalties for a water system refusing assistance (which does occasionally occur) or failing to improve/maintain their Capacity Assessment Rating, however, such actions do have inherent

consequences. The annual capacity assessment results for all systems are publicized in a paper of local circulation and on the MSDH website. Similar to the way the Consumer Confidence Report (CCR) is perceived, a primary goal of the program is for the public, not just the public water systems, to take an active role in assuring the quality of their water supply. The general public desires that their utilities be in compliance with laws and regulations, be viable for the future, and provide the best quality water at a reasonable cost.

Additional indirect consequences of failing to take action to improve Capacity Assessment Ratings include: 1) “losing” to neighboring water systems - many neighboring water system view the capacity rating as a competition to see who has the “best” water system; and 2) receiving lower priority when seeking certain government funding. Regarding funding priority, the State’s DWSRF Loan Program contains priority ranking incentives related to Capacity Assessment Ratings, and other government agencies such as the Mississippi Developmental Authority (CDBG Program) have been including a portion of the Capacity Assessment Ratings to evaluate applicants for funding. Additionally, the DWSRF requires that when reviewing facilities plans (with less than a perfect score) the potential loan recipients must address why points were missed. This competition between water systems and their attempts to seek funding results in more viable water systems, which ultimately translates into a benefit to the customers and the general public.

RESULTS

The efficacy of Mississippi’s Capacity Development Program is best demonstrated by actual results. At the present time there are 1,227 active public water systems in the state; using the Enforcement Targeting Tool List (ETT) from EPA:

The July 2013 report listed 138 systems in the state with violations; of those systems 46 had an ETT score greater than 10.

The April 2014 report listed 41 systems in the state with violations; of these systems no system had an ETT score greater than 10.

Appendix B contains a complete listing of the Technical, Managerial, Financial, and Overall/Average Capacity Assessment Ratings (scores) of Mississippi's public water systems for SFY-2012, SFY-2013 and SFY-2014 (Partial). During the past three-year reporting period the Capacity Assessment Ratings on average have progressively increased; the “Yearly State Overall Averages” have increased from the SFY 2011 score of 4.00 as follows:

SFY 2012	4.20
SFY 2013	4.30
SFY 2014	4.41

When reviewing the data, the following should be considered:

Consolidated or merged systems are indicated with the “CON” - they were consolidated with other existing water supplies.

Newly created water supplies are identified by “NS”.

Dissolved Systems are designated as “DIS” and are no longer serving customers. There are a few systems that have felt the effects of destruction by some type of natural disaster such as flood, tornado, hurricane, etc; they are designated as “NAT.” Transient, Non-Community Public Water Supplies are not required at this time to have Capacity Assessments performed. However, they are included in the Capacity Assessment listing of systems in Appendix B and account for the total 1,227 public water supplies operating within the state.

Appendix C contains individual 12 Year Distribution Charts (SFY-2003 to SFY-2014) of the scores for each category. This information clearly reflects a trend in all categories away from lower scores (0 through 3) and toward higher scores (4 and 5) and, thus, toward improved capacity for water systems throughout the State. Mississippi’s Capacity Development Program continues to prove very effective in producing the desired result of protecting public health by improving the technical, managerial, and financial capacities of the public water systems throughout the State.

PUBLIC INVOLVEMENT

A primary goal of the Capacity Development Program is for the public, not just the public water systems, to take an active role in assuring the quality of their water supply. Customers of public water systems which have received a high rating are encouraged to contact their water system officials to congratulate them for doing an excellent job of operating and managing their water system. Likewise, customers of public water systems which have received a low rating are strongly encouraged to contact their water system officials and request a copy of the system’s most recent Capacity Assessment Form. That form will quickly identify the areas where the water system needs improvement. A lower rating could indicate that the system is more likely to be non-viable and thus unable to protect public health by complying with all SDWA requirements. Customers of such systems are also strongly encouraged to get involved with their water system to ensure that any needed improvements are completed.

FUTURE

The state is still seeing the effects of recent regulations such as the Ground Water Rule and Stage 2 Disinfection By-Products Rule with the additional difficulty some systems are having with compliance. As mentioned in previous year’s reports, new SDWA rules are an area where there is a special need for additional small system technical assistance. Currently, MSDH has contracts for the compliance challenges associated with the Ground Water Rule, the Disinfection By-Products Rule, and the State Fluoride Regulation. Furthermore, the Revised Total Coliform Rule could have a yet undetermined increased burden to public water systems once implementation begins, and this could affect water system capacity assessment. It is MSDH’s intention to provide assistance to ensure that non-compliance is kept to a minimum. MSDH discovered long ago that it is easier and less costly to help systems maintain compliance by providing targeted technical assistance than by attempting to bring a troubled system back in to compliance. We believe that the assistance has already had a profound effect on compliance rates, the capacity assessment program and water systems’ scores. Based on information from various sources, it appears that the water supply concepts of asset management and sustainable infrastructure will be a major part of future needs and requirements of water systems. Additional funding provided to the DWSRF program will allow for more specialized assistance in the

previously mentioned areas of asset management planning or sustainable infrastructure to the water systems in the State. Furthermore, we believe the Board Management Training of officials of water systems of 10,000 population and less is having a positive impact on capacity assessment scores. It should also be noted that in the current economic climate, water systems are “doing their best” with less financial and operational resources. As economic conditions improve, many water systems may make significant infrastructure improvements that may be long overdue.

SUMMARY

Through the passage of proper legislation, the strict enforcement of existing laws and regulations, and the implementation of sound capacity assessment and technical assistance procedures, Mississippi continues a Capacity Development Program that has resulted in higher levels of technical, managerial, and financial capacity of new and existing public water systems throughout the State. The program also provides an additional benefit to the public in the form of better utilization of assistance resources and funding. Although no major changes have been made over the last three years, the annual evaluation process, along with the Advisory Committee review and public involvement, help to assure that any needed future changes are identified and implemented in a timely manner.

If there are questions regarding the information presented in this report, or if you have recommendations for improving the Public Water System Capacity Development Program, please contact:

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Jackson, MS 39215-1700

Copies of this report may be obtained by calling 601-576-7518, or by accessing the Mississippi State Department of Health’s website at www.healthymiss.com. At the MSDH website click on “Topics A-Z”, then “W”, then “Water Supply”, then “Reports”, then select “Triennial Report to the Governor for SFY-2014”.

**Mississippi State Department of Health
Bureau of Public Water Supply
Capacity Development Rating Form Assessment Criteria
01 July 2015 - 30 June 2016**

Technical Capacity

- T1 Does the water system have any significant deficiencies?**
- T2 (1) Was the water treatment process functioning properly?** Corrosion control plants: within +/- 0.5 of target pH (approximately 8.4, Langelier Index, or 7.2-7.8 if adding phosphate for corrosion AND minimum phosphate residual of 0.5 mg/L as P or 1.5 mg/L as PO₄ (most test kits)), Iron removal plants: finished water Fe < 0.3 mg/l, Chlorine: Adequate at plant to provide free residual throughout system, spot checked on system, Systems adjusting Fluoride: 0.7 - 1.3 mg/l with optimum dose at 0.7 mg/l.
- T2 (2) Was needed water system equipment in place and functioning properly at the time of survey?** Adequate security: locked fence around wells/treatment plant/tank (6' or 5' + barbed wire at top), locked hatches on water storage tanks (operator verifies), Security Vulnerability Self-Assessment and Emergency Response Plan, both updated annually. Required equipment in place (i.e., phosphate and/or fluoride feeders on all wells if required), major components sized correctly if affects water quality or quantity, major components working at time of inspection unless provisions for repairs made. Must be noted on inspection report.
- T2 (3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years?** Maintenance and painting contracts, tank inspection reports, operator can inspect own tank if he/she writes a report and/or takes pictures, painted if needed.
- T3 (1) Was the certified waterworks operator or his/her authorized representative present for survey?** Operator or representative must be present unless emergency; operator of record shouldn't miss two in a row.
- T3 (2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met?** Log book: Cl₂ recorded as required, pH, Fe, Fluoride, and phosphate where applicable, major events recorded (fix major leaks, replace chlorine cylinder, equipment repairs, etc.) Part time operator must make required entries in log book to show MSDH MINIMUM JOB GUIDELINES are met. Major events can be recorded separately (work orders).
- T3 (3) Was the water system properly maintained at the time of survey?** Grass cut, packing not leaking excessively, plant presentable, etc.
- T3 (4) Did the operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system?** Must have appropriate test kits, fresh reagents, and able to perform tests (where applicable: chlorine, pH, iron, fluoride, phosphate). Regional engineer may perform tests to verify operator's results. Chlorine test must be performed by operator at all inspections.
- T4 (1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer?** Requires metered connections and master meter or annual pump test with run time. Must show calculating water loss at least quarterly.
- T4 (2) Is the water system overloaded?** Cannot exceed MSDH design capacity, consecutive systems overloaded if supplier overloaded or based on hydraulic calculations or pressure recording.

- T4 (3) Was there any indication that the water system is/has been experiencing low pressure in any part(s) of the distribution system?** Documented by hydraulics or pressure recording, or verified by operator. Must be documented on inspection report
- T4 (4) Are well pumping tests performed routinely?** Must have pump tests at least every two years on all wells that are greater than three (3) years old, OR pump tests every year on wells at systems with design capacity exceeding 80%.
- T5 (1) Does the water system have the ability to provide water during power outages?** Credit given for generators, can give credit for emergency tie-ins w/ system w/ generator if hydraulics work, credit given for right angle drive if motor attached during survey, may be required to operate during inspection. Credit given for generator on trailer if quick-connect, systems with elevated storage may share generator on trailer, must have prior agreement. Service logs may be checked at time of survey.
- T5 (2) Does the water system have a usable backup source of water?**

Managerial Capacity

- M1 Were all SDWA required records maintained in logical and orderly manner and available for review?** In one location, sample results, MSDH correspondence, copy of CCR report, etc.
- M2 (1) Have acceptable written policies and procedures for operating this water system been formally adopted and available for review?** Must have water users agreement (connection fees, late charges, deposits, wastewater requirements) and subdivision/line extension policy (written procedure requiring developer/system obtain MSDH approval before construction begins) and either By-laws or Job Description for Employees (employee handbook), plus at least two of the following: Emergency or contingency plan (chain of command, phone numbers, etc.), Flushing program (flushing schedule w/ records), Fire hydrant policy (maintenance schedule, flow tests, agreement w/ fire dept.), Updated distribution map (can be updated by operator), or SARA Tier II (report of hazardous chemicals, quantity, location provided to local and state fire, law and EOC's).
- M2 (2) Have all Board Members (in office more than 12 months) completed Board Member Training?** Must have certificate (or copy) available for review. This does not apply to Municipalities with population over 10,000.
- M2 (3) Does Board meet monthly and were minutes of Board meetings available for review?** Allow quarterly meetings with full time manager. Manager must be appointed by the board and documentation of appointment provided.
- M3 Has the water system had any SDWA violations since the last Capacity Assessment?** System and Regional Engineer's records
- M4 Has the water system developed a long range improvement plan and was this plan available for review?** Hydraulic analysis, engineering report, completed State Needs Survey Form or list of goals prepared by operator and adopted by board, can give credit for major improvement project within past 5 years. Plan in use should indicate progress towards improvements. Water systems will need to provide proof of annual review by the governing body of the water system.
- M5(1) Does the water system have an effective cross connection program in compliance with MSDH regulations?** Shall include the following: Cross connection policy, records of backflow preventers installed on the system, current test results for each backflow preventer on system.
- M5(2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed?** Copy of sampling site plans available and bacti results show plan is being followed.

Financial Capacity

- F1** **Has the water system raised water rates in the past 5 years?** Credit also allowed if revenue exceeds expenditures (excluding out of pocket for major improvements and depreciation) by 10% for past five years.
- F2** **Does the water system have an official policy requiring rates routinely reviewed and adjusted if necessary?** Must be in minutes showing adopted
- F3** **Is the water system following an official cut off policy?** Must be published (in minutes or on bills), must follow policy (cut off customers who by policy should be cut off)
- F4** **Was a copy of system's adopted annual budget available for review and does financial accounting system clearly and accurately track receipts and expenditures?** Must provide copy of budget and balance sheet (income statement) for review.
- F5** **Is the municipality current in submitting audit reports to State Auditor? Was audit report (Municipal) available for review? Were water and sewer fund accounts separate from other accounts?** List of violators, copy in records, can accept CPA audit report
- F5** **1) Has the water system filed financial report with State Auditor and copy available (Rural) for review?** List of violators, copy in records, can accept CPA audit report. Financial report must be filed with the Secretary of State within 90 days of the close of the fiscal year, on forms provided by the State Auditor. **2) Does the latest report show that receipts exceed expenditures?** Excluding out of pocket for major improvements



**Mississippi Department of Health
Bureau of Public Water Supply**

STANDARD FORM

FY 2016 Public Water System Capacity Assessment Form

NOTE: This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply

PWS ID#: _____ Class: ____ Survey Date: _____ County: _____
 Public Water System: _____ Conn: _____
 Certified Waterworks Operator: _____ Pop: _____

CAPACITY RATING DETERMINATION

Technical (T) Capacity Rating: [____] Managerial (M) Capacity Rating [____] Financial (F) Capacity Rating [____]

Capacity Rating = $\frac{T + M + F}{3} = \frac{\quad}{3} =$

Overall Capacity Rating = _____

Completed by _____ on _____

Comments: _____

Technical Capacity Assessment	Point Scale	Point Award
[T1] Does the water system have any significant deficiencies? [Y N]	N - 1pt. Y - 0pt.	
[T2] 1) Was the water treatment process functioning properly? [Y N] (i.e. Is pH, iron, free chlorine, fluoride, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey? [Y N] (NOTE: Equipment deficiencies must be identified in survey report.) 3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [Y N NA] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? [Y N] 2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met? [Y N] 3) Was the water system properly maintained at the time of survey? [Y N] 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? [Y N] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T4] 1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? [Y N] 2) Is water system overloaded? (i.e. serving customers in excess of MSDH approved design capacity)? [Y N] 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? [Y N] (based on operator information, customer complaints, MSDH records, other information) 4) Are well pumping tests performed routinely? [Y N NA] (NOTE: YES FOR #1 & YES OR N/A FOR #4 AND NOs FOR #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt. 4)Y - pt.	
[T5] 1) Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) [Y N] 2) Does the water system have a usable backup source of water? [Y N] (NOTE: Must be documented on survey report)	All Y - 1 pt. Else - 0 pt.	
TECHNICAL CAPACITY RATING = [____] (Total Points)		

Revision Date: 06/10/2014

Managerial Capacity Assessment	Point Scale	Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M2] 1) Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies available for review during the survey? [<u>Y</u> <u>N</u>] 2) Have all board members (in office more than 12 months) completed Board Member Training? [<u>Y</u> <u>N</u> <u>NA</u>] 3) Does the Board of Directors meet monthly and were minutes of Board meetings available for review during the survey? (NOTE: Quarterly meetings allowed if system has an officially designated full time manager) [<u>Y</u> <u>N</u> <u>NA</u>] (NOTE: ALL YESs or NAs required to receive point. NA - Not Applicable)	All Y - 1 pt. Else - 0 pt.	
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [<u>Y</u> <u>N</u>]	N - 1pt. Y - 0pt.	
[M4] Has the water system developed a long range improvements plan and was this plan available for review during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M5] 1) Does the water system have an effective cross connection control program in compliance with MSDH regulations? [<u>Y</u> <u>N</u>] 2) Was a copy of the MSDH approved bacti site plan and lead/copper site plan available for review during the survey and do the bacti results clearly show that this approved plan is being followed? [<u>Y</u> <u>N</u>] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
MANAGERIAL CAPACITY RATING = [_____] (Total Points)		

Financial Capacity Assessment	Point Scale	Point Award
[F1] Has the water system raised water rates in the past 5 years? [<u>Y</u> <u>N</u>] (NOTE: Point may be awarded if the water system provides acceptable financial documentation clearly showing that a rate increase is not needed, i.e. revenue has consistently exceeded expenditures by at least 10%, etc.)	Y - 1pt. N - 0pt.	
[F2] Does the water system have an officially adopted policy requiring that water rates be routinely reviewed and adjusted as appropriate and was this policy available for review during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F3] Does the water system have an officially adopted cut-off policy for customers who do not pay their water bills, was a copy of this policy available for review by the regional engineer, and do system records (cut-off lists, etc.) <u>clearly</u> show that the water system effectively implements this cut-off policy? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F4] Was a copy of the water system's officially adopted annual budget available for review by the regional engineer and does the water system's financial accounting system clearly and accurately track the expenditure and receipt of funds? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F5 - Municipal Systems] 1) Is the municipality current in submitting audit reports to the State Auditor's Office? [<u>Y</u> <u>N</u>] 2) Was a copy of the latest audit report available for review at the time of the survey? [<u>Y</u> <u>N</u>] 3) Does this audit report clearly show that water and sewer fund account(s) are maintained separately from all other municipal accounts? [<u>Y</u> <u>N</u>] (NOTE: Yes answer to all questions required to receive point.)	All Y - 1 pt. Else - 0 pt.	
[F5 - Rural Systems] 1) Has the rural water system filed the required financial reports with the State Auditor's Office and were these reports available for review? [<u>Y</u> <u>N</u>] 2) Does the latest financial report show that receipts exceeded expenditures? [<u>Y</u> <u>N</u>] (NOTE: Yes answer to both questions required to receive point)	All Y - 1 pt. Else - 0 pt.	
FINANCIAL CAPACITY RATING = [_____] (Total Points)		

**Mississippi State Department of Health
Bureau of Public Water Supply
Capacity Development Rating Form Assessment Criteria
01 July 2015 - 30 June 2016**

Technical Capacity

- T1 Does the water system have any significant deficiencies?**
- T2 (1) Was the water treatment process functioning properly?** Corrosion control plants: within +/- 0.5 of target pH (approximately 8.4, Langlier Index, or 7.2-7.8 if adding phosphate for corrosion AND minimum phosphate residual of 0.5 mg/L as P or 1.5 mg/L as PO₄ (most test kits)), Iron removal plants: finished water Fe < 0.3 mg/l, Chlorine: Adequate at plant to provide free residual throughout system, spot checked on system, Systems adjusting Fluoride: 0.7 - 1.3 mg/l with optimum dose at 0.7 mg/l.
- T2 (2) Was needed water system equipment in place and functioning properly at the time of survey?** Adequate security: locked fence around wells/treatment plant/tank (6' or 5' + barbed wire at top), locked hatches on water storage tanks (operator verifies), Security Vulnerability Self-Assessment and Emergency Response Plan, both updated annually. Required equipment in place (i.e., phosphate and/or fluoride feeders on all wells if required), major components sized correctly if affects water quality or quantity, major components working at time of inspection unless provisions for repairs made. Must be noted on inspection report.
- T2 (3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years?** Maintenance and painting contracts, tank inspection reports, operator can inspect own tank if he/she writes a report and/or takes pictures, painted if needed.
- T3 (1) Was the certified waterworks operator or his/her authorized representative present for survey?** Operator or representative must be present unless emergency; operator of record shouldn't miss two in a row.
- T3 (2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met?** Log book: Cl₂ recorded as required, pH, Fe, Fluoride, and phosphate where applicable, major events recorded (fix major leaks, replace chlorine cylinder, equipment repairs, etc.) Part time operator must make required entries in log book to show MSDH MINIMUM JOB GUIDELINES are met. Major events can be recorded separately (work orders).
- T3 (3) Was the water system properly maintained at the time of survey?** Grass cut, packing not leaking excessively, plant presentable, etc.
- T3 (4) Did the operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system?** Must have appropriate test kits, fresh reagents, and able to perform tests (where applicable: chlorine, pH, iron, fluoride, phosphate). Regional engineer may perform tests to verify operator's results. Chlorine test must be performed by operator at all inspections.
- T4 (1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer?** Requires metered connections and master meter or annual pump test with run time. Must show calculating water loss at least quarterly.
- T4 (2) Is the water system overloaded?** Cannot exceed MSDH design capacity, consecutive systems overloaded if supplier overloaded or based on hydraulic calculations or pressure recording.

- T4 (3) Was there any indication that the water system is/has been experiencing low pressure in any part(s) of the distribution system?** Documented by hydraulics or pressure recording, or verified by operator. Must be documented on inspection report
- T4 (4) Are well pumping tests performed routinely?** Must have pump tests at least every two years on all wells that are greater than three (3) years old, OR pump tests every year on wells at systems with design capacity exceeding 80%.
- T5 (1) Does the water system have the ability to provide water during power outages?** Credit given for generators, can give credit for emergency tie-ins w/ system w/ generator if hydraulics work, credit given for right angle drive if motor attached during survey, may be required to operate during inspection. Credit given for generator on trailer if quick-connect, systems with elevated storage may share generator on trailer, must have prior agreement. Service logs may be checked at time of survey.
- T5 (2) Does the water system have a usable backup source of water?**

Managerial Capacity

- M1 Were all SDWA required records maintained in logical and orderly manner and available for review?** In one location, sample results, MSDH correspondence, copy of CCR report, etc.
- M2 (1) Have acceptable written policies and procedures for operating this water system been formally adopted and available for review?** Must have water users agreement (connection fees, late charges, deposits, wastewater requirements) and subdivision/line extension policy (written procedure requiring developer/system obtain MSDH approval before construction begins) and either By-laws or Job Description for Employees (employee handbook), plus at least two of the following: Emergency or contingency plan (chain of command, phone numbers, etc.), Flushing program (flushing schedule w/ records), Fire hydrant policy (maintenance schedule, flow tests, agreement w/ fire dept.), Updated distribution map (can be updated by operator), or SARA Tier II (report of hazardous chemicals, quantity, location provided to local and state fire, law and EOC's).
- M2 (2) Have all Board Members (in office more than 12 months) completed Board Member Training?** Must have certificate (or copy) available for review. This does not apply to Municipalities with population over 10,000.
- M2 (3) Does Board meet monthly and were minutes of Board meetings available for review?** Allow quarterly meetings with full time manager. Manager must be appointed by the board and documentation of appointment provided.
- M3 Has the water system had any SDWA violations since the last Capacity Assessment?** System and Regional Engineer's records
- M4 Has the water system developed a long range improvement plan and was this plan available for review?** Hydraulic analysis, engineering report, completed State Needs Survey Form or list of goals prepared by operator and adopted by board, can give credit for major improvement project within past 5 years. Plan in use should indicate progress towards improvements. **For FY-2015:** Water systems will need to provide proof of annual review by the governing body of the water system.
- M5(1) Does the water system have an effective cross connection program in compliance with MSDH regulations?** Shall include the following: Cross connection policy, records of backflow preventers installed on the system, current test results for each backflow preventer on system.
- M5(2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed?** Copy of sampling site plans available and bacti results show plan is being followed.

Financial Capacity

- F1 Does the water system have a Certificate of Need and Necessity (certificated service area) issued by PSC?** Copy of tariff or PSC filings
- F2 Has the water system petitioned PSC for a rate increase in the past 5 years?** Credit given if the water system provides acceptable documentation clearly showing that receipts consistently exceed expenditures by 10%.
- F3 Is the water system following an official cut off policy?** Must be published in tariff or lease agreement, must follow policy (cut off customers who by policy should be cut off).
- F4 Was a copy of system's adopted annual budget available for review and does financial accounting system clearly and accurately track receipts and expenditures?** Must provide copy of budget and balance sheet(income statement) for review.
- F5**
- 1) Does the water system file annual financial reports with PSC and copy available for review?** Must provide copy.
 - 2) Does the latest financial report show that receipts exceed expenditures?** Excluding out of pocket for major improvements.



**Mississippi Department of Health
Bureau of Public Water Supply**

PRIVATE FORM

FY 2016 Public Water System Capacity Assessment Form

NOTE: This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply.

PWS ID#: _____ Class: ____ Survey Date: _____ County: _____
 Public Water System: _____ Conn: _____
 Certified Waterworks Operator: _____ Pop: _____

CAPACITY RATING DETERMINATION

Technical (T) Capacity Rating: [____] Managerial (M) Capacity Rating [____] Financial (F) Capacity Rating [____]

Capacity Rating = $\frac{T + M + F}{3} = \frac{\quad}{3} =$

Overall Capacity Rating = _____

Completed by on _____

Comments: _____

Technical Capacity Assessment	Point Scale	Point Award
[T1] Does the water system have any significant deficiencies? [Y N]	N - 1pt. Y - 0pt.	
[T2] 1) Was the water treatment process functioning properly? [Y N] (i.e. Is ph, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey? [Y N] (NOTE: Equipment deficiencies must be identified in survey report.) 3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [Y N NA] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? [Y N] 2) Was log book up to date and properly maintained and did it show that MDH minimum job guidelines for W.W. Operators were being met? [Y N] 3) Was the water system properly maintained at time of survey? [Y N] 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? [Y N] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T4] 1) Does water system routinely track water loss and were acceptable water loss records available for review by the regional engineer? [Y N] 2) Is the water system overloaded? [Y N] 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? [Y N] (based on operator information, customer complaints, MSDH records, other information) 4) Are well pumping tests performed routinely? [Y N NA] (NOTE: YES FOR #1 & YES OR N/A FOR #4 AND NOs FOR #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt. 4)Y - pt.	
[T5] 1) Does the water system have the ability to provide water during power outages?(i.e. generator, emergency tie-ins, etc.) [Y N] 2) Does the water system have a usable backup source of water? [Y N] (NOTE: Must be documented on survey report)	All Y - 1 pt. Else - 0 pt.	
TECHNICAL CAPACITY RATING = [____] (Total Points)		

Management Capacity Assessment	Point Scale	Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M2] Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies available for review during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [<u>Y</u> <u>N</u>]	N - 1pt. Y - 0pt.	
[M4] Has the water system developed a long range improvements plan and was this plan available for review during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M5] 1) Does the water system have an effective cross connection program in compliance with MDH regulations? [<u>Y</u> <u>N</u>] 2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed? [<u>Y</u> <u>N</u>] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
MANAGEMENT CAPACITY RATING = [_____] (Total Points)		

Financial Capacity Assessment	Point Scale	Point Award
[F1] Does the water system have a PSC issued certificated service area? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F2] Has the water system petitioned PSC for a rate increase within the past five years? (NOTE: Point may be awarded if the water system provides acceptable documentation clearly showing that a rate increase is not needed, i.e., revenue has consistently exceeded expenditures by at least 10%, etc.) [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F3] Does the water system have an officially adopted cut-off policy for customers who do not pay their water bills, was a copy of this policy available for review by the regional engineer, and do system records (cut-off lists, etc.) <u>clearly</u> show that the water system effectively implements this cut-off policy? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F4] Was a copy of the water system's officially adopted annual budget available for review by the regional engineer and does the water system's financial accounting system clearly and accurately track the expenditure and receipt of funds? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[F5] 1) Are annual financial reports routinely filed with the Public Utility Staff and were copies of these reports available for review by the regional engineer at the time of the survey? [<u>Y</u> <u>N</u>] 2) Does the latest financial report show that system receipts exceed expenditures? [<u>Y</u> <u>N</u>] (NOTE: Yes answer to both questions required to receive point)	All Y - 1 pt. Else - 0 pt.	
FINANCIAL CAPACITY RATING = [_____] (Total Points)		

**Mississippi State Department of Health
Bureau of Public Water Supply
Capacity Development Rating Form Assessment Criteria
01 July 2015 - 30 June 2016**

Technical Capacity

- T1 Does the water system have any significant deficiencies?**
- T2 (1) Was the water treatment process functioning properly?** Corrosion control plants: within +/- 0.5 of target pH (approximately 8.4, Langlier Index, or 7.2-7.8 if adding phosphate for corrosion AND minimum phosphate residual of 0.5 mg/L as P or 1.5 mg/L as PO₄ (most test kits)), Iron removal plants: finished water Fe < 0.3 mg/l, Chlorine: Adequate at plant to provide free residual throughout system, spot checked on system, Systems adjusting Fluoride: 0.7 - 1.3 mg/l with optimum dose at 0.7 mg/l.
- T2 (2) Was needed water system equipment in place and functioning properly at the time of survey?** Adequate security: locked fence around wells/treatment plant/tank (6' or 5' + barbed wire at top), locked hatches on water storage tanks (operator verifies), Security Vulnerability Self-Assessment and Emergency Response Plan, both updated annually. Required equipment in place (i.e., phosphate and/or fluoride feeders on all wells if required), major components sized correctly if affects water quality or quantity, major components working at time of inspection unless provisions for repairs made. Must be noted on inspection report.
- T2 (3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years?** Maintenance and painting contracts, tank inspection reports, operator can inspect own tank if he/she writes a report and/or takes pictures, painted if needed.
- T3 (1) Was the certified waterworks operator or his/her authorized representative present for survey?** Operator or representative must be present unless emergency; operator of record shouldn't miss two in a row.
- T3 (2) Was log book up to date and properly maintained and did it show that MSDH Minimum JOB Guidelines for W. W. Operators were being met?** Log book: Cl₂ recorded as required, pH, Fe, Fluoride, and phosphate where applicable, major events recorded (fix major leaks, replace chlorine cylinder, equipment repairs, etc.) Part time operator must make required entries in log book to show MSDH MINIMUM JOB GUIDELINES are met. Major events can be recorded separately (work orders).
- T3 (3) Was the water system properly maintained at the time of survey?** Grass cut, packing not leaking excessively, plant presentable, etc.
- T3 (4) Did the operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system?** Must have appropriate test kits, fresh reagents, and able to perform tests (where applicable: chlorine, pH, iron, fluoride, phosphate). Regional engineer may perform tests to verify operator's results. Chlorine test must be performed by operator at all inspections.
- T4 (1) Does water system routinely track water production and were acceptable records available for review by the regional engineer?** Requires master meter or annual pump test with run time. Must show calculating water production at least quarterly.
- T4 (2) Is the water system overloaded?** Cannot exceed MSDH design capacity, consecutive systems overloaded if supplier overloaded or based on hydraulic calculations or pressure recording

- T4 (3) Was there any indication that the water system is/has been experiencing low pressure in any part(s) of the distribution system?** Documented by hydraulics or pressure recording, or verified by operator. Must be documented on inspection report.
- T4 (4) Are well pumping tests performed routinely?** Must have pump tests at least every two years on all wells that are greater than three (3) years old, OR pump tests every year on wells at systems with design capacity exceeding 80%.
- T5 (1) Does the water system have the ability to provide water during power outages?** Credit given for generators, can give credit for emergency tie-ins w/ system w/ generator if hydraulics work, credit given for right angle drive if motor attached during survey, may be required to operate during inspection. Credit given for generator on trailer if quick-connect, systems with elevated storage may share generator on trailer, must have prior agreement. Credit not given for renting generator w/o contract. SYSTEM MAY PROVIDE BOTTLED WATER IF INCLUDED AS PART OF A PUBLISHED EMERGENCY PLAN. Service logs may be checked at time of survey.
- T5 (2) Does the water system have a usable backup source of water?**

Managerial Capacity

- M1 Were all SDWA required records maintained in logical and orderly manner and available for review?** In one location, sample results, MSDH correspondence, copy of CCR report, etc.
- M2 Have acceptable written policies and procedures for operating this water system been formally adopted and available for review?** Must have Job Description for Employees associated with potable water system (employee handbook) and Emergency or Contingency plan (chain of command, phone numbers, etc.), plus at least one of the following: Construction policy (written procedure requiring MSDH approval before construction begins), Flushing program (flushing schedule w/records), Fire hydrant policy (maintenance schedule, flow tests, agreement w/fire dept.), Updated distribution map (can be updated by operator), or SARA Tier II (report of hazardous chemicals, quantity, location provided to local and state fire, law and EOC's).
- M3 Has the water system had any SDWA violations since the last Capacity Assessment?** System and Regional Engineer's records
- M4 Has the water system developed a preventative maintenance schedule and was this plan available for review?** Maintenance schedule for: wells (including annual pump tests), service pumps, tank inspections, with recommendations and corrective action taken. Documentation must be available for review.
- M5(1) Does the water system have an effective cross connection program in compliance with MSDH regulations?** Shall include the following: Cross connection policy, records of backflow preventers installed on the system, current test results for each backflow preventer on system.
- M5(2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and bacti results show site plan is followed?** Copy of sampling site plans available and bacti results show plan is being followed.



**Mississippi Department of Health
Bureau of Public Water Supply**

NON-TRANSIENT, NON-COMMUNITY FORM

FY 2016 Public Water System Capacity Assessment Form

NOTE: This form must be completed whenever a routine sanitary survey of a public water system is conducted by a regional engineer of the Bureau of Public Water Supply

PWS ID#: _____ Class: ____ Survey Date: _____ County: _____
 Public Water System: _____ Conn: _____
 Certified Waterworks Operator: _____ Pop: _____

CAPACITY RATING DETERMINATION

Technical (T) Capacity Rating: [____] Managerial (M) Capacity Rating [____]

Capacity Rating = $\frac{T + M}{2} = \frac{\quad}{2} =$

Overall Capacity Rating = _____

Completed by _____ on _____

Comments: _____

Technical Capacity Assessment	Point Scale	Point Award
[T1] Does the water system have any significant deficiencies? [Y N]	N - 1pt. Y - 0pt.	
[T2] 1) Was the water treatment process functioning properly? [Y N] (i.e. Is ph, iron, free chlorine, etc. within acceptable range?) 2) Was needed water system equipment in place and functioning properly at the time of survey? [Y N] (NOTE: Equipment deficiencies must be identified in survey report.) 3) Were records available to the regional engineer clearly showing that all water storage tanks have been inspected and cleaned or painted (if needed) within the past 5 years? [Y N NA]	All Y - 1 pt. Else - 0 pt.	
[T3] 1) Was the certified waterworks operator or his/her authorized representative present for the survey? [Y N] 2) Was log book up to date and properly maintained and did it show that MSDH Minimum Job Guidelines for W.W. Operators were being met? [Y N] 3) Was water system properly maintained at time of survey? [Y N] 4) Did operator satisfactorily demonstrate to the regional engineer that he/she could fully perform all water quality tests required to properly operate this water system? [Y N] (NOTE: All YESs required to receive point)	All Y - 1 pt. Else - 0 pt.	
[T4] 1) Does water system routinely track water production and were acceptable water production records available for review by the regional engineer? [Y N] 2) Is water system overloaded? (i.e. serving customers in excess of MDH approved design capacity)? [Y N] 3) Was there any indication that the water system is/has been experiencing pressure problems in any part(s) of the distribution system? [Y N] (based on operator information, customer complaints, MSDH records, other information) 4) Are well pumping tests performed routinely? [Y N NA] (NOTE: YES for #1 & YES OR N/A/ FOR #4 and NOs for #2 & #3 required to receive point)	1)Y - pt. 2)N - pt. 3)N - pt. 4)Y - pt.	
[T5] 1) Does the water system have the ability to provide water during power outages? (i.e. generator, emergency tie-ins, etc.) [Y N] NOTE: Systems may provide bottled water if included as part of a published emergency plan. 2) Does the water system have a usable backup source of water? [Y N]	All Y - 1 pt. Else - 0 pt.	
TECHNICAL CAPACITY RATING = [____] (Total Points)		

Management Capacity Assessment	Point Scale	Point Award
[M1] Were all SDWA required records maintained in a logical and orderly manner and available for review by the regional engineer during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M2] Have acceptable written policies and procedures for operating this water system been formally adopted and were these policies and procedures available for review during the survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M3] Has the water system had any SDWA violations since the last Capacity Assessment? [<u>Y</u> <u>N</u>]	N - 1pt. Y - 0pt.	
[M4] Has the water system developed a preventive maintenance schedule and was a copy of this schedule available for review during survey? [<u>Y</u> <u>N</u>]	Y - 1pt. N - 0pt.	
[M5] 1) Does the water system have an effective cross connection control program in compliance with MSDH regulations? [<u>Y</u> <u>N</u>] 2) Was a copy of the MSDH approved bacti sample site plan and lead and copper sample site plan available for review and do bacti results clearly show this approved plan is being used for all bacti monitoring? [<u>Y</u> <u>N</u>]	All Y - 1 pt. Else - 0 pt.	
MANAGEMENT CAPACITY RATING = [_____] (Total Points)		

System Capacity Assessment

As required by the Federal Safe Drinking Water Act, the Mississippi State Department of Health (MSDH) has implemented a capacity development program for existing public water systems. A key element of this capacity development program is a rating system used by MSDH to determine the technical, managerial, and financial capacity of each public water system. The technical capacity pertains to the certified waterworks operator's duties and responsibilities in relation to the public water system in which he or she serves. The managerial capacity pertains to the governing body's duties and responsibilities for the water system in which they direct. The financial capacity pertains to all financial aspects that are needed to properly sustain a public water system. A Capacity Rating Form is used to evaluate these three areas and determine the capacity rating for each water system. The form is reviewed annually by the MSDH to determine if changes and/or additions are needed to more accurately assess the current capacity of Mississippi's 1200+ public water systems.

The capacity assessment inspection is performed on an annual basis to ensure that public water systems are not only complying with regulations set forth by federal and state agencies, but to also provide guidance for systems to take needed actions to increase their sustainability and capacity to provide a safe and affordable supply of drinking water to its customers.

The annual inspection is performed by MSDH regional engineers and is in fact an "open book test" since the water systems are aware of the questions and the necessary requirements to receive credit during the assessment. The rating scale ranges from 0.0 to 5.0, with 5.0 indicating that the system is doing an excellent job in meeting the goals outlined in the inspection. Systems scoring 3.0 or below are usually strongly encouraged to take action to improve capacity.

The Capacity Assessment Forms (CAFs) consist of three major sections: Technical, Managerial and Financial. Each of these sections includes key questions designed to identify those tasks that a public water system must routinely accomplish in order to demonstrate capacity and to comply with all current and proposed requirements of the Safe Drinking Water Act. The following list of documents and policies should be used to prepare for inspections to limit oversights by operators, clerks, board presidents, mayors or board members when preparing for each annual inspection. These oversights often lead to the deduction of points on the capacity assessment.

The following documents are subject for review by the regional engineer during the inspection and were provided by MSDH.

Board Planning and Policies

- Minutes of Board meetings
- Vulnerability Assessment and Emergency Response Plan
- Water User's Agreement
- Subdivision/Line Extension policy
- By-laws or Job Description for employees
- Certificates of Board member Training if required
- Long-Range Improvements plan
- Cross Connection policy
- Record of last rate increase or results of last rate study
- Policy requiring rate to reviewed annually
- Cut-off policy and copy of current cut-off list
- Annual budget
- Audit Report filed with State Auditor's Office

Operations

- Records of last tank inspection or painting for all metal water tanks
- Operator's current log book
- Percent water loss calculated at least quarterly for the past year
- Records of flushing program
- Updated distribution map
- Results from recent pumping test on wells
- Monthly Operating Reports (if 4-log)
- Current number of active connections
- Usage records from any commercial or industrial customers using significantly more water than a typical resident

Sampling/Testing/Evaluation

- Water Quality Analysis test results
 - Microbiological/Bacteriological and Turbidity Analyses – 5 years
 - Chemical Analyses– 10 years
- Sanitary Survey and Annual Inspection reports - 10 years
- Communications, including violations, related to Significant Deficiencies – 10 years
- Communications related to Violations not previously mentioned – 3 years
- Consumer Confidence Report (CCR) from previous year
- Test results showing all backflow preventers tested in past 12 months
- Approved Lead and Copper site plan
- Approved Bacteriological and Disinfection Byproducts site plans

Public Water System Peer Review Program

The Public Water System Peer Review Program is a technical, managerial, and financial evaluation of the water system. The purpose of the program is to prepare public water systems for the annual inspection performed by the Mississippi Department of Health (MSDH). It is provided at no cost to any Mississippi public water system that makes a request. Volunteer water system operators and technical assistance providers conduct these Peer Reviews. The operators conducting the reviews will assist with numerous things such as any technical problems your system may be

having and preparing the necessary paperwork required by MSDH. These operators will be able to give you advice and recommendations for improving the system's technical, managerial, and financial capacity, which can result in a significant improvement in next year's Capacity Assessment Rating. Most importantly, this program will help the water system provide service to its customers more efficiently and effectively. The results of the Peer Reviews are strictly confidential. No state or federal agency, including MSDH, will know the results of your Peer Review.

Section IX: Financial Management

Planning, Budgeting, and Rate Setting and My Water System: ■ A Self-Assessment ■

Please respond to the following statements that relate to your water system management. Select one answer. The answers reflect the opinion of the board member making the assessment, but the joint opinions of the board members should reflect the strengths and weaknesses of the board and help identify areas where improvement is needed.

1. To help keep up with trends in total water used in our water system, we
 - A. keep records for up to 10 years on the annual gallons of water used, the number of users, water used by different classes of users (if applicable), monthly water use, and annual water use per customer; we have estimates of water losses from leaks and unmetered sites.
 - B. keep records for up to 5 years on annual water use, number of users, use per customer, and we estimate water losses each year.
 - C. have historical records on file of water use, number of users, and average use per customer, but there are some gaps in the records.
 - D. keep some records, but they are scattered and these are based on rough estimates.
 - E. keep no records of water use and water losses.

2. For my water system,
 - A. every water user is metered and records are kept on each customer's usage.
 - B. all private users are metered, but some public users are not metered and no records of water use can be kept on these.
 - C. most but not all private users are metered and billed, and we do not meter public users.
 - D. we use meters, but the location of every meter is not known or is not read on a monthly basis.
 - E. we do not use meters but charge everyone equally, regardless of water consumption.

3. Our board
 - A. requires that we keep monthly records of our expenses and income by major categories and that we summarize these into annual reports. We use these for preparing annual budgets and for long-term planning.
 - B. requires that we keep records of monthly income and expenses by categories, and we use these in planning but do not prepare budgets each year. We make long-term plans when we feel they are needed.
 - C. has monthly income and expense records but do not categorize them to help identify exactly where our money is coming from and where our money is going.
 - D. has some financial records, but we do not keep them long enough for them to be of much use in our financial planning.
 - E. does not keep detailed records of income and expenses.

4. For our inventory of machinery and equipment, our board
 - A. requires that permanent records include the age, expected life, date and cost of major repairs, annual maintenance checks, and dates and plans for major repairs or replacements, projected costs of repairs, and plans for new purchases.
 - B. requires that records be kept on maintenance and major repairs but we do make plans for replacement on an item-by-item basis.
 - C. asks that operators and managers make repairs when needed and report to the board when major repairs or purchases are needed as well as reporting periodically on the status of the machinery and equipment inventory. No written records are maintained.
 - D. asks that operators or managers keep up with equipment repair and replacement needs, but no records or reports are required.
 - E. keeps no inventory records on purchases or repairs.

5. Our financial record-keeping system is
 - A. computerized, kept current, income and expenses are categorized, and accurate financial information can be generated for board use anytime it is needed.
 - B. computerized income and expenses are categorized, and financial reports can be generated anytime they are needed. Often recent income and expense items have not been included.
 - C. not computerized, but we have an organized system so that income and expense statements can be generated monthly from deposit receipts, checkbooks, and bank statements.
 - D. based mostly on the monthly bank statements that we use to put together financial reports when required.
 - E. poorly maintained, and it is difficult to develop accurate reports when they are needed.



The Economics of Small Rural Water Systems ■

The most important function of the board of directors of small rural water systems is the economic management of the water system. The purpose of the board is to get its customers an abundant and consistent supply of good-quality water at a fair and reasonable price. The rates for customers of municipal systems outside the one mile buffer zone outside the city limits can be no more than 150 percent of the rates of the regular water system. Water system users organize themselves into a business organization that can accomplish this purpose, or a town council assumes this as a major function of the city.

Critical elements of the rural water system business are record keeping, long-term planning and budgeting, financing, and setting rates. The success of using these financial tools depends on knowing the projected number of users and the proper sizing of the system to fit the present and future water demands. Although a rural water association or a small city water service department is a nonprofit entity, it must be managed with the same scrutiny of a private business. Customers or water association members must know that their water is provided as economically as possible and without the future of the water system being jeopardized. To do this, the board has the following responsibilities:

- maintain records related to quantity of water used by types of users, total water metered, water losses, and water production;
- maintain accurate financial records;
- consistently monitor expenses and incomes and set procedures that ensure expenses are monitored and that all due incomes are received;
- use short-term and long-term budgets to plan for the maintenance, improvement, and expansions of the system;
- keep abreast of any grants available and the best sources for financing loans for the system; and
- set fair rates and keep the rate structure in line with financial needs and plans.

Developing Rate-Related Policies, Rate Structures and Setting Rates

An important part of managing a water system and keeping it financially strong is to maintain accurate records. On a regular basis, decision makers should ask, "How much water did we produce or buy, and how much did we sell?" The answers to these questions affect your system's operation and income, including the rates you set.

The income from the sale of water and services determines whether or not your system will prosper.

A successful water system operates according to sound business principles. Systems must charge a fair price for the services they provide. Some customers argue that water should be free, but testing, treating, storing, pumping, and delivering a constant supply of water is expensive. Water system leaders must set rates that are sufficient to pay for the services their system provides and to meet their future needs.

The rate structure is the engine that keeps the water system organization in business. Board members of nonprofit associations often refuse to make needed rate increases. The boards of directors and the managers of small rural water systems are not only responsible for the system operating as efficiently as possible but also are responsible for generating enough funds to meet emergency needs and to maintain the long-term viability of the system. The rate structure must be fair to all its members or water customers. Annual planning helps prevent large and abrupt changes in rates caused by new capital outlays or emergency repairs or replacements.

However, the rate structure is only one part of the picture. There are many other considerations that affect the financial performance and sustainability of the system. Consider the following factors before adjusting rates:

- Raising rates because of inefficiency and poor management results in animosity by the consumers toward the board of directors and water system employees.
- Poor management cannot be overcome by raising rates. A loss of confidence and support will occur, often resulting in the failure of the existing organization and an expensive reorganization.
- Other factors related to job losses by customers, decreases in personal incomes, and people moving out of the district may make it difficult even under the best management conditions.

Why Water Systems Need To Increase Income

There are many factors that can affect water system finances. These include the following:

- **Increases in operating expenses** – Like any business, water systems are subject to increasing expenses. When operating expenses go up, income must go up, too. Higher operating expenses can be caused by increases in inflation, interest rates, labor costs, and power costs.
- **System expansion or renovation** – Some systems may need to expand their facilities to keep up with the needs of a growing community. Others may be faced with expanding or renovating their treatment

facilities to meet federal or state requirements. Regardless of the cause, expansion and renovation can be some of the biggest costs a water system can have.

- **Changes in the customer base** – The customers of a water system are what form its customer base. If there is a change in the customer base, there is a change in the system's income. For example, if a major manufacturer or an agricultural customer leaves an area, the system may lose a significant portion of its income. The system may have to increase rates or cut operating expenses to accommodate the loss.
- **Emergencies** – Eventually, most systems experience an emergency. Tornado, flood, or other disastrous damage can require immediate capital to cover repair and rebuilding costs.
- **Water shortages** – During times of severe drought, a system may have to ration water or raise rates to buy water from another system. By increasing rates, systems may encourage customers to conserve water.
- **Water treatment requirements** – Some systems may have to raise rates to pay for expensive water treatment. This can be caused by new or stricter federal and state regulations, water contamination, or the addition of new water sources.
- **Loss of a source of financial support** – The operational expenses of some types of water systems may be supplemented from property tax revenues or the operation of other utilities. If systems lose this, they may be faced with either cutting costs or raising rates.
- **System operating policies and procedures** – In some cases, incorrectly set operating policies and procedures may actually be costing the system money. For example, overdue accounts, low water rates, inefficient operations, or excessive water loss all cut into the system's money reserves.
- **Environmental and health regulations** – Increases in required testing, changes in structural requirements, and increases in required procedures have added to the costs of doing business. More technical knowledge, more expensive equipment, and increased labor requirements add to the costs of operating rural water system associations and/or water departments. The water system boards have no choice in meeting these requirements.

How Can a System Increase Income Without Raising Rates?

While raising a system's rates is certainly one way of increasing income to meet operating and capital expenses,

it is not the only way. In many cases, you can increase income without increasing rates. You may do the following:

- Conduct a water audit
- Revise system policies
- Reduce expenses

Conduct a water audit

Your system might cut costs by conducting a water audit. A water audit helps you find water that is unaccounted for in your system.

For example, according to system records, you distributed 1,000,000 gallons last month, but customers' meter readings only totaled 800,000 gallons. The remaining 200,000 gallons are unaccounted for. The "unaccounted for" water may actually be caused by inaccurate records or meters. Unaccounted for water may also be the result of distribution leaks, unmetered connections, or water theft.

Errors in records and meters. Errors can be costly to your system. If your records aren't accurate, you may provide more water than you are getting paid for. The first step in a water audit is to verify records for accuracy.

Another source of errors is meter inaccuracy. Start a meter testing program and establish a meter change out policy if your system does not have one. Some systems routinely replace meters that have registered a certain number of gallons or have been in service for a number of years.

Unmetered connections. Regardless of the billing procedure, consider metering every connection on your system. Unmetered connections result in a loss of revenues.

Some systems do not use meters at all. Typically, these systems charge a blanket rate. In these cases, it is impossible to estimate the operating efficiency of the system and set adequate billing rates. The American Water Works Association and the National Rural Water Association recommend that all water system connections be metered.

Water theft. Another cause of lost income is water theft. Periodically, check your system for illegal taps, reversed water meters, and other signs of theft. Some systems have strict cash penalties for people caught stealing water. In some states, water theft is a felony.

Leak detection. No system is leak free, but some systems have more leaks than others. You can find leaks yourself, or you can contact the professional water association in your state or a leak detection service for help. Successful leak detection surveys often pay for themselves by finding costly leaks. An important reason for

reading meters is to check the system for leaks and meter inaccuracy. Your system may be able to save hundreds of dollars if you discover leaks or defective meters as soon as a problem occurs.

Your water system operator should regularly monitor tanks and lines for leaks. Also, installing master meters at water sources will enable the system to compare the amount of water produced/treated with the amount of water sold to customers. This comparison is a good indicator of the amount of leakage in the distribution system.

Many Mississippi rural water system lines may run in out-of-the-way or unseen areas. Soils that shift or move after hard rains and lines exposed to freezing conditions may break. Often the only way to find leaks in these areas is to have special checks and leak detection programs. Contact the Mississippi Rural Water Association for help in developing a leak detection program and a pumping test program. Water losses add to the electricity and pumping costs and wear out the equipment, resulting in higher costs to users.

Revise system policies

Some policies and practices listed below reduce the problems associated with rate increases and should occur before any rate changes are made. These have already been addressed in previous chapters but are listed here for review purposes:

In addition to providing water, systems provide customers with a range of services, including installation and repairs. If the price of service has increased steadily during the last 5 years but your rates and fees have remained the same, it may be time to revise system policies.

Almost all Mississippi rural water system associations have specific rules regarding dates of billing, deadline dates for payments without interest charges, and deadlines before disconnections. Reconnecting fees are also specified. These rules should be part of the association's bylaws and be strictly enforced. Stealing water is illegal and the board should see that violators are reported.

Not following approved collection policies is unfair to customers who pay bills and support the water organization whether it is publicly or privately owned. Written exceptions may be enacted for those who have temporary financial difficulties and health problems, but exceptions should be legitimate and approved by the board. Cutting water off for customers who have health problems exposes an organization to lawsuits that can greatly affect its economic viability.

Consider any exceptions carefully because excep-

tions tend to feed on other exceptions, and the board will face difficult choices, will be put in difficult positions, and its overall effectiveness diminished. Funds may be created to help customers who have emergencies and financial difficulty.

The board and the billing clerk should make sure that both a mailing address to send bills and a drop-off location for paying bills directly are known by all its customers. All systems have some customers who prefer paying directly with cash, and these customers would not send cash by mail. The board should have a policy of charging a fee for checks that are returned because of insufficient funds. Charges should at least cover bank charges that are deducted from the organization's bank account for handling these transactions. Other policies include:

Establish a late-payment charge. Late and overdue payments cost your system money. They deprive you of the gross income for the water the customer used and the interest on the money if it were in the bank. Late payments are also unfair to those customers who pay on time. You may also want to consider charging a fee for returned checks.

One way to make up for the interest your system loses is to add a late-payment charge to the customer's bill. At a minimum, charge the current interest rate for the money your system would have made if the payment were in your system's bank account. (Be sure to check the laws in your state about this practice.) Mark it clearly on the bill that if the customer does not pay the full amount on time, the system will assess a penalty.

Charge a fine to disconnect and reconnect service. Some systems may not charge customers to have their service disconnected and/or reconnected. Although these services seem minor, they still cost your system money. Not only must your system pay for equipment and tools to do the job, but it must also pay for the labor to get the job done. During a year's time, these small service calls can add up. If possible, charge customers at least the cost of labor to connect or disconnect service.

Generate front-end charges. One way to increase income without raising rates is to require all new customers to pay a front-end charge before starting service. Front-end costs include membership fees, deposits, and construction costs for new installations.

Water co-ops usually charge new customers a membership fee. Memberships provide a system with immediate cash and are typically nonrefundable.

Some systems require new customers to place a deposit on their water service. Many customers may prefer placing deposits, because they are returnable when services are discontinued. Deposits benefit the system

by allowing it to use the money for system improvements and expenses as long as the customer remains on the service.

Establish a strict cut-off policy. Another way to encourage customers to pay promptly is to establish a strict cut-off policy. If customers do not pay their bills by a given date, disconnect their service until they have paid their bills in full. Check your state and local laws regarding utility disconnections for customers who do not pay their bills. You may also choose to charge a service fee to have their water service reconnected.

Let your money make money. Some systems have sizeable cash reserves in noninterest-bearing accounts or low-yield certificates of deposit. Be sure your assets are earning the maximum for your system.

If your system now bills quarterly, consider changing to a monthly billing system. This puts more money to work faster for your system. Be aware, however, that a change from quarterly to monthly billing can be a major adjustment for system staff and customers.

Some systems have considered a change from monthly to quarterly billing to save on meter reading and mailing costs. Consider this carefully, because this can prove to be a false assumption.

Charge for extra services. Make certain that all extra services, such as road bores, are fully paid for by the customer who receives the service.

Reduce expenses

Another way for a system to increase cash flow is to operate more efficiently. When you consider ways to cut system costs, think of the system as a business. Good business practice involves paying attention to the smallest details involving operating costs.

Techniques for cutting system costs are reviewed below. You may do the following:

Upgrade your billing system. Some systems may be able to increase their income by adopting a computer billing system. A good computer billing system can save employee work hours and allow bills to be sent more quickly. An efficient billing system can also improve cash flow and interest income.

Perform an energy audit. Another way you may cut system expenses is to perform an energy audit. Check all electrical devices such as pumps and motors to make sure they are operating at top efficiency. For help in performing an energy audit, contact a manufacturer's representative or professional water association in your area.

Purchase items in bulk. Whenever possible, purchase items you will need for the year in bulk. If storage space is a problem, your supplier might send you

partial shipments as you need them. You must pay for the supplies in advance, but you do not have to worry about storage space.

Make cooperative purchases. Your system may be able to save even more money if it makes a cooperative purchase with neighboring water systems. By purchasing enough supplies for two or more systems, you may receive a quantity discount.

Water meters. Every water system user should have a meter and receive a water bill. Exceptions to this rule should be very limited. Public areas such as parks, public buildings, and other community facilities are often excluded, but even these should be metered and monitored. Approve any exceptions at membership meetings or city council meetings, and make them a part of written policies open to the membership or public. Private exceptions, unless approved in this manner, usually create uncertainty and distrust and are perceived as unfair. Systematically check meters for accuracy. Older meters or other meters that malfunction are far more likely to slow down and thus favor the customer at the expense of the water association, water department, or business.

Contracting and work projects/equipment. The policies and practices that the board follows for contracting can have a considerable impact on the costs of doing business and/or the income earned by the organization. The board must weigh the costs of buying equipment and hiring employees to complete work projects against the costs of contracting projects to outside businesses. Larger system managers may find it more economical to do most of their own work, and small systems managers may find it too costly to buy expensive equipment and hire full time employees. The availability of qualified employees and qualified contractors and the timeliness of getting work completed are critical factors in these decisions.

When expensive equipment is owned and often sits idle, a lease-out program may be a way of earning extra dollars. Operators of the equipment are often hired out with the equipment to help prevent improper uses and damage to the equipment. If emergencies occur during lease-out periods, these must get priority over outside jobs.

All water system associations and departments will contract for wells, pumps, and tanks as well as professional services. Professional engineers are used to develop specifications for water systems. Policies should be established for bidding procedures that insure the association or department of getting quality work at the best price. Contracting decisions are based on needs and experience, and individual boards are qualified to make the best decisions.

Increasing Income by Raising Rates...the Last Resort

In some cases, water system decision makers must adjust water rates regardless of their efforts to increase income in other ways.

Timing rate adjustments. The timing of rate adjustments is important. Systems may meet with less resistance if decision makers time a rate hike wisely and explain why the increase was necessary.

Some times are more appropriate than others for rate increases. If possible, avoid raising water rates during the following times:

- Holidays
- Back-to-school time
- Legislative sessions or election time
- High water-consumption months, unless for conservation purposes

How often should a system adjust rates? Some systems adjust rates only when they are in debt. Rates should be adjusted when the system's income does not pay its expenses despite efforts in other areas of system operation. A system's financial status usually dictates the cost of water. In rare cases, systems have lowered rates. Most often, though, a rate adjustment actually means a rate increase.

Systems may want to consider adjusting rates annually based on projected revenue needed for the next year. Some systems review their rates during the annual budgeting process. Rate adjustments are met with less resistance if they are in small increments each year rather than a large adjustment every 3 years. Some systems use rate indexing, which is a set percentage of increase every year to keep up with inflation.

Informing the public about rate adjustments. Regardless of the way your system chooses to adjust rates, keep your customers informed. Don't let them discover rate hikes with the next bill.

There are several factors that should be understood when dealing with a system's financial situation. Many of these have already been touched on, but a more detailed discussion is needed in order to understand and evaluate the system's viability.

Understanding Your System's Finances

All too often, a board thinks that its only option to change the financial situation of the system is to adjust (usually raise) rates. However, adjusting rates should be done as a last resort and only after the board has a complete understanding and performed a thorough examination of the system's financial picture.

The following sections provide the basis for an analysis of a system's financials. Understanding finan-

cial components, examining reporting and analysis tools and developing an overall plan and budget for the system will be followed by a discussion of the various types of rate structures and considerations in choosing a structure and rate level that works best for your system.

Record Keeping

Accurate record keeping is an indispensable first step in not only understanding the system's finances, but also in properly managing the water system and planning for future improvements. On a regular basis, decision makers should ask, "How much water did we produce or buy, and how much did we sell?"

Many water system organizations keep detailed records on computers, but a large number of Mississippi rural water system boards do not do a good job of keeping either financial or production records. Keeping poor records makes it impossible for the system to practice good financial planning and usually results in burdening your customers with unnecessary charges.

Financial record keeping forms the basis for financial management, long-term financial planning and for setting rates. Without a good record-keeping system, the capability of making meaningful long-term decisions is severely limited. Computer record-keeping systems that are inexpensive, easy to understand, and greatly reduce the time required to keep records and generate customized reports are good investments for most water associations. These systems can also generate a variety of helpful, customized reports. Computer programs and equipment are on the market with the following capabilities:

- entering and recording meter readings that can be transferred to computers for billing purposes
- transforming meter readings into bills and printing bills for mailing
- entering all income, expenses, and investments
- generating reports to determine current economic conditions and providing input for short-term and long-term budgeting.

Several programs specifically designed for water and sewage systems are available. Investigate these and select those that fit the needs and budgets of your system. If a computerized program is not selected, then organize the manual record keeping procedures so that the same data can be generated for keeping current income and expense totals and for preparing financial budgets.

Whether you select a computerized or a manual bookkeeping system, the next step after the selection of a system is defining the income and expense categories to get the information needed for determining the pres-

ent economic condition of the association or water department and for budgeting purposes. The number of income and expense categories should be detailed enough give a picture of the business functions necessary to operate the business but not so detailed as to be cumbersome in generating figures to make business decisions. The selection of categories is totally at the discretion of the board and bookkeeper and should be made to fit the particular needs and desires of the board. Examples of expense and income categories are provided later in this chapter.

Financial record keeping includes recording all income received and all expenses paid by the association or water department, preferably on a monthly basis. Major income and expense items should be set apart so the board knows where money is coming from and where money is being spent. The number of income and expense sectors should be large enough to distinguish major areas but small enough to simplify planning.

Maintain your records on monthly and aggregate yearly bases. For some water system organizations, this may simply be a matter of recording transactions and keeping records that are already being generated. Only if records are filed for several years can trends be observed, and trends are important in long-term planning. Demographic trends will have an impact on new users and users that have moved from your service area. Household income trends impact the ability of users to promptly pay water bills. Physical water use records—such as gallons of water used per customer—help form the basis for planning future water needs and investment requirements.

A map or plat of the whole water system, including wells, tanks, lines, line connections and meters, is beneficial to the planning process. Maps or schematic diagrams should be required to help new board members and new employees, to help professional and contractors who are hired, and to help other utility organizations who use the same areas for their installations. Maintaining plats should be an assignment of managers and operators who do the changes and additions. Appendix Table 1 is designed for recording water use information that would be helpful in long-term planning.

Financial Reporting Tools

Balance Sheet. The balance sheet represents the statement of the firm’s financial balances in terms of the following accounting model:

$$\text{assets} = \text{liabilities} + \text{members' equity}$$

Assets are the objects owned by and having value for your water system. Examples are the cash in your bank and the water lines in the ground.

Current assets represent cash or other assets that will become cash within one year. Investments and funds include non-current assets other than property, plant, and equipment. These are long-term investments in securities such as stocks, bonds, and notes. Intangible assets represent long-lived assets that have no physical substance. Examples are easements, patents, and trademarks. Items that cannot be categorized go under “other assets.”

Liabilities are the opposite of assets. These are obligations or the amount owed to another entity. As with the assets category, current liabilities are obligations that must be paid within a year and include accounts payable, short-term notes payable, and accrued expenses for payrolls, interest, and taxes. Long-term liabilities are bonds payable, notes payable to banks, and lease obligations.

Members’ equity represents the difference between the assets and the liabilities and represents the value of the organization if all assets were sold and the proceeds used to retire the system’s liabilities.

Balance sheet classifications:	
assets	current assets investments and funds property, plant, and equipment intangible assets other assets
liabilities	current liabilities long-term liabilities
members’ equity	benefit units donated capital retained earnings

Retained earnings represent the accumulation of income (loss) since the inception of the district.

An accurate balance sheet is one of the best tools your system can have. It is a snapshot of your water district's finances on a given date.

Table 1. Sample balance sheet

Balance Sheet for Water District No. 5	
December 31, 1997	
Assets	
Current assets:	
Cash and equivalent	\$57,000
Certificates of deposit	60,000
Accounts receivable	10,857
Inventories	5,980
Prepaid expenses	<u>1,000</u>
Total current assets	<u>134,837</u>
Bond reserve fund	<u>25,000</u>
Property, plant, and equipment	<u>207,000</u>
Other assets:	
Easements	2,000
Utility deposits	<u>1,500</u>
	<u>3,500</u>
	<u>\$370,337</u>
Liabilities and members' equity	
Current liabilities:	
Current maturities of bond payable	\$45,000
Current maturities of capital lease obligations	10,000
Accounts payable	20,000
Line extension deposits	14,000
Accrued liabilities	<u>15,000</u>
Total current liabilities	<u>104,000</u>
Note payable, bank, less current maturities	<u>100,000</u>
Capital lease obligation, less current maturities	13,000
Members' equity:	
Contributed capital	\$55,337
Retained earnings	<u>98,000</u>
Total members' equity	<u>\$153,337</u>

Income Statement. An income statement compares the water system's revenues to its expenses. The revenues are the money that the district receives for items such as water sales and hookup fees expenses are costs incurred in order to generate revenues.

While the balance sheet and income statement both measure the financial status of the system, they are very different. The balance sheet demonstrates the health of the firm at a given point in time. The balance sheet shows the "vitals" of the business such as the cash on hand that is required to operate, the level of income-generating assets of the firm such as pumps and tanks, and the liabilities or debts that are owed by the firm to its various creditors. The income statement measures the healthy activities of the firm over time by demonstrating

the capacity of the firm's income-generating ability to cover the expenses incurred by operations.

The Annual Financial Report for Non-Profit Public Water Systems, found in the Appendix of this manual, provides a snapshot of the financial status of non-profit water systems to the Office of the State Auditor and is due by July 1 of each year. The financial portion of this report combines elements of the income statement and the balance sheet to demonstrate the degree to which the nonprofit systems are fulfilling their missions. The reverse side of the report provides a listing of the system's board members as well as identification of those board members who have not completed Board Member Management Training as required by Mississippi state law.

Table 2. Sample income statement

Income Statement of Revenues and Expenses	
for the Year Ended December 31, 1997	
Revenues:	
Water sales	\$ 140,000
Hookup fees	200
	<u>\$140,200</u>
Costs and operating expenses:	
Water purchases	\$52,000
Salaries and wages	18,950
Payroll taxes	1,460
Insurance	2,800
Depreciation	20,000
Office supplies	4,000
Utilities	3,000
Telephone	1,200
Mileage	1,000
Repairs	3,900
Miscellaneous	1,500
	<u>109,860</u>
Income from operations	<u>\$30,340</u>
Nonoperating revenues (expenses):	
Interest income	\$4,000
Interest expense	(10,850)
	<u>(6,850)</u>
Net income	<u>\$23,490</u>

Analyzing Costs (Expenses) and Incomes (Revenue)

Costs. Before setting rate structures, identify which costs are fixed and which are variable. This helps to provide a clear picture of obligations that must be paid even if the water system were shut down, compared to obligations that depend on the quantity of water produced.

Fixed Costs. Fixed costs are costs that do not vary with the amount of water produced or used by customers at the time that costs are analyzed. Fixed costs must be paid even if pumps are not turned on and water is not being distributed. From the business standpoint, any costs that have already been incurred and paid, and any costs where the obligation to pay cannot be changed become fixed costs. Examples of costs that are often considered fixed by a water association or water department are salaries, insurance, office expenses, debt payments, and reserve funds. Reserve funds are added as fixed costs because of the high priority they should receive in the survival of a water system organization.

Variable Costs. Variable costs are costs that vary with the amount of water produced or the water consumed by the users. These are costs that increase as water usage increases. Examples of costs that are usually considered variable are electricity, chemicals such as chlorine, service labor, and repairs. Because repairs are correlated with use, they are variable. However, because they are unpredictable, businesses often allocate to a repair account and treat this account as fixed.

Understanding the difference between costs that are fixed and those which are variable gives the board a logical procedure for dividing the rate structure into a basic rate or base charge and a set of additional rates depending on usage. The fixed costs that must be paid, regardless of the amount of water produced, form the basis for setting the basic rate or the base charge. Variable costs, which increase with water produced or consumed, form the basis for setting the rates based on the number of gallons of water metered or consumed.

Distinguishing between fixed and variable costs is important to a marginal business whose objective is to make a profit (for a nonprofit water system, you can translate this as becoming financially viable and sustainable). If variable costs are not covered, then the business should not operate or should close, because by continuing to operate, losses would only increase. If variable costs are covered and only parts of fixed costs are covered, it is economical to continue to operate because all of the variable costs are being paid, and some fixed costs are being paid.

However, this cannot continue in the long-run because all costs must be eventually covered. If the pur-

pose of a water system organization is to provide water for residents in its certified area for the long run, then all costs must be covered. Unlike a competitive business for profit, the water system association or department is not competitive and is not going to shut down to change locations or change products. Reorganization, improved management, and rate increases may be the only options if users are to continue to have water supplied where competition does not exist.

Expenses. Expenses include personnel, equipment and vehicles, supplies, insurance, postage, office, contracts, debt payment, reserves, etc.

- Personnel expenses include wages and salaries, health insurance, payroll taxes paid by employer, travel, per diem, reimbursements, and educational fees or training fees for employees and board members.
- Equipment and vehicle costs include parts, small repairs, fuel and oil, vehicle insurance, tags and taxes, and lease payments.
- Supplies include chemicals, pipes and fittings, valves, pump parts, sampling kits, meters on hand, small tools, and shipping costs.
- Insurance expenses include general liability, director and officer liability, employee liability, property, crime bonding, life and casualty.
- Office costs include stamps and postage, envelopes and printed cards, paper, computers and computer equipment, printers, and office equipment repairs.
- Utilities expenses include electricity for pumps and well houses and utilities for the office.
- Telephone costs include office phones, cell phones, and phones for managers and operators.
- Contract expenses include those for system repairs and contracts with professionals, engineers, accounting, and legal advisors.
- Debt payments include interest payments on current loans and bonds.
- Reserves include money for emergencies, major repairs on water system, major repairs on equipment, and planned expansions and improvements. At a minimum, this fund should include a reserve for depreciation of existing assets that are not covered by current debt payments plus amounts set aside for emergencies and for planned expansions that are not going to be covered by additional debt.
- Other expenses include water purchases, returned meter deposits, and appropriate miscellaneous costs.

Before the board can develop usable, long-term financial plans, it must be able to identify and project the water needs and growth in water use in the service area. These will ultimately determine the income available to

the water system. Variables that will determine the system's income include the following:

- new users within the present water service network;
- expansions outside the present lines but within the service area;
- user density in a new area;
- alternative sources of water;
- present users that leave the area or discontinue service;
- potential tie-in with an adjoining system for emergencies;
- potential merger with another system;
- potential for better control of water wasted; and
- high-use periods when water demands are the highest.

The availability of water for users depends on the following:

- the number of wells and other sources of water;
- the productive capacity of the wells and other water sources;
- the control of water losses through leaks or unmetered runoff;
- the capacity of the main water lines and the private lines of the users;
- the storage capacity of tanks and holding facilities; and
- the ability of the water system organization to manage the system effectively.

Many Mississippi water system organizations provide water not only for households and individual families, but also for commercial, agricultural and industrial users. Organize records so these types of users are separately identified, even if rates for different user types are identical. Mississippi sales tax must be paid by non-residential users. The distinction of these users may be according to meter size and not by user type. Farm and industrial users are often higher risk users because they are larger consumers, industries may move or relocate, and farm use can be uncertain and dependent upon weather conditions.

Potential advantages to a rural water association or a small town system from a new industry's locating in the area include the following:

- Additional demand may result in the expansion of the water system to a more optimum size and in improved economic efficiency.
- New industry could bring in new household users within the water service boundaries and increase the user density if the water system has a sparsely distributed user base.
- Pressure on the board could result in making needed improvements to the system.

- Additional users could raise the revenues enough to reduce water costs per user.
- Arrangements could be made with new industry that would cover all the increases in costs and reduce the risks associated with expanding and improving the water system.
- Interested stakeholders and possible leaders could be added who have a definite interest in the success of the water system.

Problems that could arise that the board should be aware of include the following:

- Relatively large users (such as industries and intensive irrigation operations) may affect the water table in the area, regardless of their participation in the water association or city water service.
- If water supply is part of an incentive program to attract industry, industrial users may not be subject to the increased costs incurred by the water system.
- Industries may relocate or be forced to shut down, reducing the industrial demand for water and affecting the domestic use when jobs are lost.

Income. Income includes water sales; late charges, penalties, and reconnecting fees; connection fees and meter deposits; interest on reserves; contract work; membership charges; and other incoming money.

- Water sales include water bills paid by customers and water sold to another system.
- Late charges, penalties, and reconnecting fees include interest charges when bills are not paid by the due date, additional penalties charged when bills are not paid by due date or before next billing period, and fees for reconnecting service after meters have been removed for nonpayment.
- Connection fees and meter deposits include income from charges made for original connection to water system, membership charges for joining an association, and deposits made for meter installation and meters less meter deposit returns.
- Interest on reserves include interest earned from money deposited in a reserve bank account for water system emergencies, major repairs, improvements, or expansions.
- Contract work includes work by employees for other systems or equipment or machinery leased out when not in use.
- Other income includes anything appropriate: grants and loans that provide funds for the system but are not normal income.

Financial Management

Financial management for a utility should include providing stability for the utility, careful budgeting, and providing capital improvement funds for future utility expansion. These three areas must be examined on a routine basis to ensure the continued operation of the utility. They may be formally reviewed on an annual basis and when making long-term plans for utility maintenance and expansion.

Financial Ratios

To evaluate the financial condition and performance of an organization, financial analysis uses a ratio, or index, to relate two pieces of financial data to each other. How do you measure financial stability for a utility? There are two simple ratios to help you do this.

The first ratio is the **operating ratio**. This ratio shows the capacity of the utility to generate enough revenues from its normal operations to pay its expenses. A utility that is in financially sound shape will typically have an operating ratio above 1.10.

Calculate total operating revenue by adding all revenue generated by water bills, user fees, hook-up fees, and interest income from security deposits. Calculate operating expenses by summing the expenses of the utility concerned with the production of water including administrative costs, salaries, chemicals, supplies, fuel, depreciation, interest expenses, and miscellaneous expenses attributed to the operation of the system.

Calculating the Operating Ratio and the Coverage Ratio. The operating revenues for a utility are \$1,367,600 and the operating expenses are \$1,052,000. The debt service expenses are \$470,000. What is the operating ratio?

$$\begin{aligned}\text{operating revenues} &= \$1,367,600 \\ \text{operating expenses} &= \$1,052,000 \\ \text{debt service expenses} &= \$470,000\end{aligned}$$

Calculate the operating ratio

$$\begin{aligned}\text{operating ratio} &= \frac{\text{operating revenues}}{\text{operating expenses}} \\ &= \frac{\$1,367,000}{\$1,052,000} = 1.30\end{aligned}$$

An operating ratio of 1.3 means that this water district receives \$1.30 in revenues on every dollar spent in operating expenses.

The second ratio is the **coverage ratio**. This ratio measures the ability of the utility to pay the principal, interest and debt reserve requirements on loans and bonds. Most lenders require this ratio to be at least 1.25.

This ratio is calculated by dividing the revenue available for debt service by the level of debt service. The revenue available for debt service is simply operating revenues minus non-debt related operating expenses.

Calculate the coverage ratio

$$\begin{aligned}\text{coverage ratio} &= \frac{\text{operating revenue} - \text{non-debt expenses}}{\text{debt service}} \\ &= \frac{\$1,367,600 - \$582,000}{\$470,000} = 1.67\end{aligned}$$

With a coverage ratio of 1.67, this sample utility has demonstrated the capacity to meet its debt service obligations.

Other Useful Ratios

Liquidity ratios. Liquidity measures your water system's ability to meet current obligations or bills. The two main liquidity ratios are current ratio and quick ratio, with the current ratio being the most widely used. The current ratio represents your water system's ability to meet current liabilities and to stay in business.

Calculating the Current Ratio. Current and quick ratios can help you to measure risk in terms of financial difficulty. The ratio provides a good starting point for looking at the financial strength of the utility. Using this ratio, the manager can measure the financial health of the water system, and can evaluate how well the system performed in comparison with prior years or other systems.

The **current assets** for a utility are **\$159,000** and **current liabilities** are **\$102,000**.

$$\begin{aligned}\text{current ratio} &= \frac{\text{current assets}}{\text{current liabilities}} = \\ &= \frac{\$159,000}{\$102,000} = 1.56\end{aligned}$$

This ratio means that this water district has \$1.56 in current assets for every \$1.00 in current liabilities. This means that the firm is liquid and could sell its current assets and use the proceeds to retire all current liabilities or short term debt.

■ A Learning Exercise: Financial Reports ■

Please respond to the following statements and questions. Select the correct answers by circling the appropriate letters. Some statements may have more than one correct answer; circle all letters that are correct.

1. Financial record keeping for rural water associations or water departments should include
 - A. simple income and expense totals so the board will know when rates are not covering expenses.
 - B. categories of expenses and incomes so sources of income and major areas of expense can be evaluated for improvements before rates increases are considered.
 - C. only expense categories because rates can always be adjusted to provide enough income to equal expenses.
 - D. detailed depreciation schedules for every tool and every piece of equipment purchased, regardless of the cost.

2. A current ratio is a liquidity ratio that
 - A. measures a water system organization's ability to pay its current liabilities.
 - B. is defined as current assets/current liabilities.
 - C. is a measure of income compared to expenses.

3. A coverage ratio is
 - A. a ratio that determines if you have enough basic insurance coverage.
 - B. a ratio of total revenue to total costs.
 - C. measures the ability to pay both principal and interest on all debts.
 - D. a ratio of total revenue less total nondebt expense to debt service expense.

A water system has the following figures available to calculate the current and coverage ratios.

Please answer questions 4 and 5 using the following figures:

total assets	\$1,000,000
total revenue	250,000
current assets	150,000
current liabilities	125,000
total liabilities	750,000
total operating expenses	200,000
total debt expenses	20,000
total nondebt expenses	180,000

4. The current ratio is
 - A. 7.50
 - B. 1.33
 - C. 1.20
 - D. None of the above

5. The coverage ratio is
 - A. 3.5
 - B. 1.4
 - C. 9.0
 - D. None of the above

6. All water systems will legally be required to
 - A. keep a financial statement available for inspection.
 - B. maintain selected income and expense receipts.
 - C. submit a prepared financial statement each year to the Department of Health.
 - D. use the same record-keeping system that large systems now use.

7. Accurate financial record keeping
 - A. should be a high priority of the board.
 - B. is not necessary in determining the basis for setting rates.
 - C. provides needed support for the board in conveying needs to the customers or association members.

8. Fixed costs are often used
 - A. to form the foundation for scheduling rates based on the quantity of water used.
 - B. to determine the amount of funds needed for utilities.
 - C. to form the foundation for setting the base rate or basic charge portion of water bills.

9. Which of the following statements would likely improve the management of the water system and reduce costs to its users?
 - A. requiring every separate user to have a meter
 - B. having leak-detection and water-audit programs to prevent excess water losses
 - C. keeping financial records for major expenses and income items and preparing annual budgets that include reserve funds for debt payments, replacements, and emergencies

10. Most of a rural water system's funds come from water bills, late charges, and reconnection fees. Other viable income sources that some water systems have used to increase incomes include the following:
 - A. requiring meter deposits and original connection fees
 - B. placing reserve funds in interest-earning accounts
 - C. leasing specialized equipment for outside jobs when that equipment is idle

11. Which of the following statements should be a requirement for rural water systems in order to safeguard board members?
 - A. maintain a complete set of financial records, giving proof of all purchases made and income received
 - B. mandate independent financial audits annually
 - C. require gun permits for all board members so they can carry concealed weapons if assaults are expected

12. Historically, rural water systems have been more successful and have had fewer problems with customers if they
 - A. keep the financial condition of the organization to themselves and inform users only when there is a need to raise rates.
 - B. have an open attitude, keep users informed on important business decisions, and communicate with the customers on a periodic basis during the year.
 - C. mail the customers detailed records of every financial decision made at every board meeting.
 - D. keep business records in a known location so customers can go to that location and review the records anytime during normal business hours.

Please review this exercise after the questions are answered; give yourself a grade. Think about the questions in terms of how some of these ideas could be used to improve your water system management.

■ Long-Range Planning: A Self-Assessment ■

Circle the following letters that correspond to true statements for your board.

1. Our board makes plans for our water system's expansion and improvements
 - A. for a long-term period of more than 5 years and usually 8 to 10 years or more
 - B. for about a 3-year planning period
 - C. for a period of 2 years
 - D. only for the next year
 - E. only when pressured by the users or when problems arise

2. In planning budgets, our board
 - A. has appointed members who work with financial records to get detailed income and expense information together, prepare planning budgets, and recommend rate changes which are presented to the board for study and approval.
 - B. depends on income and expense reports from the manager who makes projections and prepares budgets and suggested rate changes which are submitted for board approval.
 - C. does not look at expense and income records on a regular basis but depends on our manager and operator to make decisions on expansion and improvements needed.
 - D. reviews our investment needs and rate structures every 3-5 years.
 - E. reacts to emergencies in planning new investment, capital improvements, and rate changes.

3. Our rates
 - A. are reviewed annually and adjusted if income, expense, and planned investments make it necessary. Annual reviews make adjustments in charges gradual and not unexpected.
 - B. are reviewed every 2-3 years and adjusted if projected costs and revenues dictate a change.
 - C. are adjusted when big expenses occur. Sometimes adjustments are unexpected and cause concern among our users or customers.
 - D. are seldom adjusted, but when they are adjusted, bills almost double.
 - E. are adjusted when money is short without much examination of records or budget planning.

4. Our rates, when compared to similar water systems are
 - A. about average or lower than other systems and provide enough income for reserves without creating economic problems.
 - B. slightly higher than other systems, but our financial condition is strong.
 - C. considerably above other systems but provide enough income to keep us financially stable.
 - D. much higher than other systems, but we still have financial problems.
 - E. much higher than other systems, and our financial condition is poor.

5. Our rates
 - A. include a base rate plus charges for gallons used beyond the base, and we have separate categories for household, farm, and industrial users, or our rates are set to account for differences in usage by farms and industries.
 - B. include a base rate plus charges for additional use, but we do not differentiate between household, farm, and industrial users. Our rates are not set to account for farm and industrial water usage.
 - C. include a base rate plus charges according to use, but our base rate is set so that most users pay only the base rate.
 - D. include a base rate plus charges according to gallons used, but we have some problems with getting the meters read at proper intervals.
 - E. are flat rates where all users pay the same each month regardless of water used.

6. In estimating the water wasted or lost in our water system, we
 - A. require meters for every user, and we meter water leaving the main lines at the pump or tanks.
 - B. meter every user, but do not have any way to check meter totals against water produced by the wells.
We do keep up with estimates of water pumped and make loss estimates.
 - C. meter all purchasers but not all users and make estimates of water used by those not metered and the total water pumped at each well to estimate water losses.
 - D. have some users who are not metered, and we use secondary data to estimate water losses.
 - E. do not meter uses and do not make water loss estimates.

7. Our board
 - A. has an excellent knowledge of the current financial condition of our association or organization and the future plans for the water system.
 - B. has a basic knowledge of the present financial condition and future plans for the water system.
 - C. depends on the manager and board chairman to keep up with financial conditions and future needs of the water system, but other members are not that involved except to approve the actions recommended.
 - D. does only an average job of keeping up with income and expenses of the water system and depends solely on the manager or bookkeeper to keep up with the finances and recommend improvements or expansions.
 - E. does a poor job of keeping current on the financial condition of the organization and of being involved in planning future expenditures and income from the water system.



Budgeting

Budgeting is the process of estimating income and expenses for a future time period. Planning budgets may be for 1 year, for 3 years, for 10 years, or for any planning period the board thinks is appropriate. Budgets are planning tools. Your board should prepare an annual budget each year to assess the financial condition of the water association or water department. In fact, water system lenders, including USDA-RUS and GMAC, require systems to submit budget proposals and cash flow projections for approval within 1 month of each new fiscal year. Failure to do long-term budgeting can cause many problems such as a lack of funds for emergencies or expansions, poor purchasing patterns, and erratic rate setting. Budgets are plans with dollars attached. They give the following information:

- Here is what we plan to do.
- Here is what it is expected to cost.
- Here is where we will get our income.
- Here is the expected financial position of our water association or water department.

Cash-flow and income/expense budgeting are processes of examining expected cash expenses versus expected cash income. This procedure is very useful in evaluating rate structures.

Budgeting Is a Team Event

Get management and staff together for a work session to look at the last year's expenses and discuss system needs for the next year. Hold another meeting in a few days for board members or staff to recommend changes to the budget.

The Budget-Making Process

- Plan your budget to support your mission, which should be consumer oriented. The purpose of a budget is to accomplish ends that benefit customers.
- Develop policies that provide do's and don'ts about managing budgets and funds.
- Consider whether to pay off debt or to incur more. During the early nineties, interest rates and the cost of indebtedness were extraordinarily low, but the economic crisis of the late 2000s brought a great deal of uncertainty to borrowing rates.
- Assess your monthly statistics to see if they are the right ones.
- Compare your budget categories with actual practices.
- Use your budget to spot trends. Try to assess how 2.5 percent population growth can increase demand for water in your water system.

Using Budgets To Project Revenue and Expenditures

The purpose of financial budgeting is to predict the revenues and expenses of the firm over the planning horizon. If the budget development process is accurate, then the need to spend money that is not contained in the budget is minimized.

A critical foundation of budget preparation is the accurate maintenance of financial records. Accurate records allow the system manager or board to understand how the utility's money has been spent over the past year, the needs of the utility that result from these expenditures and the prioritization of those needs.

Budget development has five parts:

- Establishing required debt service reserve levels
- Establishing system financial reserve levels
- Estimating the full cost of operating the system for the next year (including depreciation and obsolescence)
- Estimating system revenue from sale of water
- Adjusting revenues to cover estimated expenses.

Reserves

Debt Service Reserve. If you borrowed money to build your system, your loan agreement requires you to have a Debt Service Reserve. The Debt Service Reserve is in addition to your loan repayment. The Debt Service Reserve insures that you can make your debt payments on time even if you have a financial emergency. It should be noted that most lien holders including USDA-RUS prohibit withdrawals or transfers from a system's Debt Service Reserve without prior approval. Thus, Debt Service Reserves typically are restricted cash assets.

If you do not have Debt Service Reserve, find your loan papers and determine how much you need to budget for the next year in order to start meeting your obligation.

System Financial Reserves. Your water system's equipment started to wear out the day water was turned on. With time, equipment will need to be changed and emergencies will happen. The only way to assure your customers of an uninterrupted supply of safe drinking water in the future is to set aside money each month to cover these costs.

A System Financial Reserve Account can be set up at the bank in an interest-bearing savings account. Ideally, a system's budgeted depreciation expense is transferred monthly from the operating account to the Financial Reserve Account. Unlike your Debt Service Reserve, this account is unrestricted cash and typically is used for three purposes: planned equipment repair and replacement, emergency repairs, and planned system expansion and improvements. To plan on equipment

repair and replacement, make a list of major equipment. Together with your operator, determine the time between breakdowns and the remaining life expectancy and replacement cost of each piece of major equipment. To estimate how much your system will need next year for emergency repairs, review what emergencies took place in the last 12-24 months and the cost of each to resolve.

To plan future system expansions and improvements, estimate the cost of each future expansion the board has agreed to do. Determine how much you will set aside and how much you will finance.

The next step in developing a budget is to estimate the full cost of operating your system next year. First, determine your expense categories. Expense categories are the major types of expenses your system has each year. You can review these categories from the budget for the previous year. If you do not have a budget, work with your bookkeeper to make a list of the major expenses your system has each year.

Typical Expense Budget Categories

- Annual Debt Service
- Salaries or Personnel Costs
- Office Utilities
- Operating Utilities
- Operating Supplies
- Telephone
- Out-of-Town Travel
- Equipment Leases
- Insurance
- Office Rental
- Accounting, Auditing, Legal, Engineering
- Office Supplies
- Contract System Repairs

Annual Debt Service should be your first budget category. Examples of expenses in each budget category are given below:

Current Debt Service:

- Annual Payment on Bonds
- Interest and Interest Payment on Loans

Personnel Costs:

- Employee Salaries
- Workman’s Compensation
- Employee Health Insurance Premiums
- Payroll Taxes

Insurance:

- Liability Insurance
- Bonding of Employees
- Vehicle Insurance
- Board Liability Insurance

Use the following worksheet to calculate how much financial reserves to include in next year’s budget for each purpose.

Table 3. Worksheet for figuring financial reserves

Financial Reserves			
Part A: Calculating Planned Equipment Repair and Replacement <i>Annual Budget Amount = Replacement Cost + Years Remaining Life</i>			
Major Equipment:	Years Remaining Life:	Replacement Cost Estimate:	Annual Amount To Budget:
1.		\$	\$
2.		\$	\$
3.		\$	\$
Total:		\$	_____
Part B: Calculating Emergency Repairs			
Potential Emergency			Estimated Cost:
1.			\$
2.			\$
3.			\$
Total:		\$	_____
Part C: Calculating Planned System Expansion and Improvements <i>Annual Budget = Portion of Cost To Be Self-Financed ÷ Number of Years Until Start of Project</i>			
Proposed Capital Projects:	Years Until Start of Project:	Portion To Be Self-Financed:	Annual Amount To Be Budgeted:
1.		\$	\$
2.		\$	\$
3.		\$	\$
Total:		\$	_____

Table 4. Worksheet for figuring the expense budget

Expense Budget				
	Column A	Column B	Column C	Column D
Budget Category	Last Year's Actual Expenses \$	Current Year's Expenses \$	Changes in Next Year's Budget \$	Next Year's Estim. Exp. \$
1. Annual Debt Service				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
				Total Operating Expenses \$
Debt Service Reserve				
Debt	Total To Be Accumulated	Current Amount in Reserve Fund	Annual Installment	
1.				
2.				
3.				
				Total Budgeted for All Debt Service Reserves \$
Financial Reserves				
1. Equipment Repair and Replacement				\$
2. Emergency Repair				\$
3. Planned Expansion and Improvements				\$
				Total Amount Budgeted for All Financial Reserves \$
				TOTAL ALL EXPENSES \$

Calculate last year's expenses on each of the proposed budget categories, which you can list in Table 4 in column A. Column B is your current year's expenses. You can calculate them by adding the actual expenses up to date to the estimated expenses for the remaining months of the year.

Calculate how much you've spent this year in each budget category. If you are in month 9 of your fiscal year, divide total expenses to date in each category by 9 to get monthly average expenses. Multiply this number

by 12 to get the current year's expenses. Record these expenses in column B.

When you compare last year's expenses and the current year's expenses, you will notice changes in some categories. Your next year's expenses will change. Some will go up, and some will go down. Overall, the budget will probably increase. When filling out column C, think about expenses in each category that are likely to increase or decrease and by how much. Column C calls for decisions by the entire committee.

You've estimated current year expenses and changes in next year's budget. Now you can estimate next year's expenses. Take time to estimate each category of expense as accurately as possible.

To estimate TOTAL ALL EXPENSES at the end of Table 4, do not forget to include the Debt Service Reserves and System Financial Reserves from Table 1.

Estimating System Revenue and Balancing the Budget

When estimating budget revenues, count only operating revenues. Most systems have two types of income - operating revenue and nonoperating revenue.

Operating revenue comes from the following sources:

- sales of water
- connection fees
- late payments, penalties, and reconnection fees
- forfeited meter deposits.

Nonoperating revenue comes from the following sources:

- interest on checking account
- interest on reserve account
- meter deposits.

Table 5. Worksheet for estimating next year's revenues

System Operating Revenue				
Column A Month	Column B Last Year's Revenue	Column C Current Year's Revenue	Column D Change in Revenue	Column E Next Year's Estim. Rev.
1.	\$	\$	\$	\$
2.	\$	\$	\$	\$
3.	\$	\$	\$	\$
4.	\$	\$	\$	\$
5.	\$	\$	\$	\$
6.	\$	\$	\$	\$
7.	\$	\$	\$	\$
8.	\$	\$	\$	\$
9.	\$	\$	\$	\$
10.	\$	\$	\$	\$
11.	\$	\$	\$	\$
12.	\$	\$	\$	\$
TOTAL	\$	\$	\$	\$

Column B in Table 5 includes last year's operating revenues for each month. For column C, fill in operating expenses for each month you've completed. Add the columns, and divide the answer by the number of months added together. It will give you the average monthly revenue. Use this figure to complete remaining months of the current year.

Column D is simply a difference between column B and column C. To figure next year's estimated revenue,

look at the figures in columns B, C and D, and try to predict the change for the next year.

The following can affect revenue:

- rate increase
- drought
- uncollected bills
- new customers
- losing customers
- temperature

Try to estimate revenues as accurately as possible. Add the total revenues to get a 12-month total for each column.

Monitoring the Budget

At this point, you've prepared your budget. Monitor the budget to keep your water system financially stable.

Your bookkeeper must gather and report financial information to the board every month. Table 6 can be used to present the financial information.

In sections I and II for column A, you use Revenue

and Expense line items that you used in your budget. Section III represents your reserves. You should write a check monthly to Reserve Account equal to at least 1/12th of the budgeted amount. Section IV is the difference between your revenues and expenses plus reserves. If your revenues exceed expenses plus reserve, you have an operation gain; if not, you have an operation loss.

Table 6. Worksheet for calculating a monthly financial report

Monthly Financial Report for _____ Month of FY _____					
A	B	C	D	E	F*
Budget Category	Actual Current Month	Actual Year-to-Date	Annual Budget	Projected Performance (C ÷ month number x 12)	Percent Budget (D)
I. REVENUES					
Water Sales	_____	_____	_____	_____	_____
Connection Charges	_____	_____	_____	_____	_____
Customer Deposits	_____	_____	_____	_____	_____
Other	_____	_____	_____	_____	_____
Subtotal Section I.	_____	_____	_____	_____	_____
II. EXPENSES					
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
Subtotal Section II.	_____	_____	_____	_____	_____
III. TRANSFERS TO RESERVES					
Customer Deposits	_____	_____	_____	_____	_____
Debt Service Reserve	_____	_____	_____	_____	_____
Financial Reserves	_____	_____	_____	_____	_____
Subtotal Section III.	_____	_____	_____	_____	_____
IV. OPERATION GAIN(LOSS)					
(Total = Section I - Section II + Section III)					
V. RESERVE ACCOUNT STATUS					
	Checking	Customer Deposits	Debt Service Reserve	Financial Reserve	
Beginning of Period	_____	_____	_____	_____	
End of Period	_____	_____	_____	_____	
Change	_____	_____	_____	_____	
VI. TOTAL PAST DUE OWED					

*To find percent budget, divide column C by column D.

In column B of Table 6, report amount of money the system actually received and spent during the month. Column C shows all revenues and expenses in all previous months of the fiscal year, including current month. Column D shows the budgeted numbers adopted by your board before the start of this fiscal year. To estimate column E (projected performance), divide each line item in column C by the number of the month for which you are preparing this report to find monthly average (for the month of June, divide by 6). Then multiply the monthly average by 12 to estimate the annual projected performance of each line item. Column F is the outcome of dividing column C by column D. This column should help you to monitor your performance and compare it with the budgeted amounts.

Study this report carefully. Check whether revenues exceed expenses for the month. If not, analyze why not. See whether the transfers to reserves are being made. If some expenses are higher than budgeted, see what you should do to reduce them. Take actions on uncollected amounts from past due water bills. If needed, reduce or control expenditures and increase revenues.

Section V shows actual cash on hand. Section VI shows the total past due amounts customers owe to your system. Never should a water system's past due accounts receivable balance exceed 10 percent of the projected annual revenues. Calculate this total by using Table 7 shown below:

Table 7. Sample of past due account summary

Date Prepared _____		
Days Past Due	Number of Accounts	Amount Due
0-30	_____	_____
31-60	_____	_____
61-90	_____	_____
Over 90	_____	_____
		Total \$ _____

Revisiting the Budget

Revisiting the annual budget is not recommended unless estimated revenues and expenses change significantly from actual revenues and expenses. Use Table 6 to guide you in reducing expenses and increasing revenues. Only in case of an increase in water rates, significant increase in operating costs, or a significant change in system revenues will you need to formally revisit the budget.

Capital Improvements and Long-Term Planning

Developing a Facility Master Plan

Most small systems develop a 5-year plan for future needs and revise this plan each year. A capital improvements fund must be a part of the utility budget and account for expanding service, upgrading quality of water treatment, and replacing worn-out equipment. A plan should contain a financial estimate for each year and possible sources of financing so that when the time comes, you will have money to pay for these improvements.

The first step in the capital planning process is to evaluate carefully the various factors that can affect the type and size of the facilities or improvements your system will need in the future. These influential factors include the following:

- growth in demand for drinking water;
- deterioration of your system's major components;
- system's latest Sanitary Survey;
- compliance with Safe Drinking Water Act Amendments of 1996;
- state's requirements to get a low-interest loan for capital needs; and
- requirements and methods of financing.

The second step is to develop a facility master plan. Begin this by making a list of all improvements that need to be made over the next few years. Hold a meeting with your system operator, administrative staff, bookkeeper, board members, and a consulting engineer to identify capital improvements that will be needed within the next 5-year period. At the end, you will have a list of the capital items and rationale for determining why each is needed.

Table 8. Sample of funds available

Funds Available To Meet Capital Needs	
SmallSYS #5 Inc.	
1. Annual revenues from water sales, current year	\$83,500
2. Annual expenses (operating and debt), current year	76,000
3. Annual \$ available for capital improvements	7,500
4. Annual \$ appropriated for capital improvements	5,000
5. Total \$ appropriated during 5-year period (5 x \$5,000)	25,000
Plus:	
6. Current cash reserves	15,000
7. Cash reserves transferred for capital improvements	8,000
9. Total initial amount dedicated to capital improvements (line 5 + line 7)	\$33,000

You should then place the items in priority order and determine how much it's going to cost to meet each capital need.

Determining Existing Resources

The purpose of identifying existing financial resources is to determine how much your system can fund using its own resources and how much you can finance from outside sources.

First, identify the dollar amount your system can devote to meeting capital improvement needs. Then, consider financial alternatives from outside, such as banks and state and federal programs.

Projecting Future Revenues and Expenses for a 5-Year Period

From the previous section, you have an initial amount dedicated to capital improvements over a 5-year period. However, to confirm this amount is actually available, it is necessary to project revenues, expenses, and reserve balances over the next 5 years.

In making a 5-year financial projection, you will need to make assumptions about the system's future. Some things that can be taken into consideration:

- actual figures for revenues and expenses for the previous 3-5 years
- would the average monthly water bill continue to be same amount per connection
- the number of new customers who will be added to the system, and how much revenue and costs will increase because of them.

Line 1 in Table 9 shows the numbers for projected total annual revenues. The number for the current year is \$83,500, and this number is taken from Table 6. To

come up with figures for Year 2, the planning committee of this water system followed the assumption that they would add 15 new customers the first year. The revenues from those connections, \$4,050/year ($22.50 \times 12 \text{ months} \times 15 \text{ customers}$), were added to the first year's revenue ($\$83,500 + \$4,050 = \$87,550$).

This number was multiplied by 0.005 (the half of one percent assumed growth in revenue annually) and added to the first year's revenue to find the projected revenue for Year 2, which is \$83,938 ($\$87,550 \times 0.005 = \438 ; $\$438 + \$83,500 = \$83,938$).

The third year revenue was calculated by multiplying revenue for Year 2 by 0.005 and adding this number to the second year's revenue:

$$\$83,938 \times 0.005 = \$420; \$420 + \$83,938 = \$84,358$$

Try to calculate the revenue for the remaining years in Line 1. The last column in Line 1 is the total revenue for 5 years.

Line 2 shows projected total operating and debt expenses. The number for current year expenses is taken from Table 6. To determine expenses for Year 2, multiply expenses for Year 1 by 0.02 (2% increase in yearly expenses is assumed). This increase was added to the first year's expense:

$$\$76,000 \times 0.02 = \$1,520$$

$$\$1,520 + \$76,000 = \$77,520$$

Each year's total was projected by multiplying the previous year's total by 0.02. The last column in Line 2 shows the total expenses for 5 years.

Line 3 is the difference between Line 1 and Line 2 in each column. This figure represents the total surplus in operating revenue for each year.

Line 4 represents the amount that you have decided to dedicate to capital projects each year of the planning period. Using Table 8, this amount is \$5,000 per year.

Now you are ready to complete the table of financial projections.

Table 9. Sample of financial projections

Projected Funds Available for Capital Improvements - 5 Years							
SmallSys. # 5 Inc.							
	Current Year \$	Year 2 \$	Year 3 \$	Year 4 \$	Year 5 \$	Year 6 \$	Totals \$
(1) Projected Total Annual Revenues (Enter Current Amount Projected at One-half of 1% per Year [.005])	83,500	83,938	84,358	84,779	85,203		421,778
(2) Projected Total Operating & Debt Service Expenses (Enter Current Amount Projected at 2% per Year [.02])	76,000	77,520	79,070	80,651	82,264		395,505
(3) Projected: Operating Surpluses or Deficits (Line 1 Minus Line 2 Equals Line 3)	7,500	6,418	5,288	4,128	2,939		26,273
(4) Annual Amount: Transferred to Capital (Enter Current Year - Project Future Years at \$7,000/Year)	5,000	5,000	5,000	4,128	2,939		22,067
(5) Excess Revenues: Transferred to Reserves (Line 3 Minus Line 4 Equals Line 5)	2,500	1,418	288	0	0		4,206
(6) Current Year: System Reserves (Enter Current Balance)	15,000						N/A
(7) Current Year Amount: Transferred to Capital (Enter Current Year Transfer)	8,000						8,000
(8) Current Year Balance: System Reserves (Line 6 Minus Line 7 Equals Line 8)	7,000						N/A
(9) Projected System Reserve Balances (Add Year End Totals From Line 5 to Current and Future Year Balances)		9,500	10,918	11,206	11,206		N/A
(10) Future Reserve Balances Transferred to Capital (Enter Capital Transfer Amounts for Future Years)					5,500		5,500
(11) Ending Balance-System Reserves Year 6 (Year 5, Line 9 Minus Line 10, Insert Result in Year 6)						5,706	N/A
(12) Projected: Total Capital Funds Available per Year (Add Lines 4, 7, and 10)	13,000	5,000	5,000	4,128	8,439		
Total Capital - 5 Years							35,567

Because the operating surplus for Years 4 and 5 is less than \$5,000, put in the Line 4 amount from Line 3 for these years.

Line 5 is the difference between Line 3 minus the projected operating surplus and Line 4 minus the annual amount transferred to capital.

Line 6 shows the amount of reserves accumulated.

The number in **Line 7** is taken from Table 8 and equals \$8,000, which is cash reserves. SmallSys # 5 Inc. decided to transfer \$15,000 from the cash reserves.

Line 8 is the difference between Line 6 and Line 7, $\$15,000 - \$8,000 = \$7,000$.

Line 9 is calculated by adding \$2,500 (Line 5) to \$7,000 (Line 8). This equals \$9,500, which is the reserve balance for Year 2. Add this number to the excess revenues transferred to reserves for Year 2 to get the projected system reserve balance for Year 3 ($\$9,500 + \$1,418 = \$10,918$). And so on for all 5 years.

In Year 5, this water system has projected a reserve balance of \$11,206. The system transferred \$5,500 of the excess reserves to capital improvements in Year 5. **Line 10** shows the future reserve balances transferred to capital and equals \$5,500 in Year 5. The amount is based on the assumption that the system will grow and incur additional costs related to the expansion.

Line 11 is the difference between Line 9 and Line 10 for Year 5. Put this number in the column for Year 6 ($\$11,206 - \$5,500 = \$5,706$).

Line 12 is the sum of all amounts shown in Lines 4, 7, and 10.

At the end of the table, show the Total Capital for 5 years:

$$\$13,000 + \$5,000 + \$5,000 + \$4,128 + \$8,439 = \$35,567$$

Create an identical table for your system to project funds for capital improvements.

Setting Your Spending Priorities

In setting spending priorities for capital items, you will weigh the importance of meeting capital needs in terms of the following factors:

Relative Importance of the Need. You would answer questions such as the following: What is absolutely essential to undertake? And why? Which improvements directly impact the health of the customers? Which improvements have been mandated by the state regulatory agency or as a result of water quality testing? What is the deadline that the system must meet for mandated projects? What are the consequences of not undertaking each proposed improvement?

Relative Benefits to the System and Customers. Which projects would provide the greatest benefit to your customers? Which projects would help increase

revenues or decrease operating expenses of the system?

Relative Costs of Improvements. Can urgent improvement be funded in-house? Which projects require outside financing? For the projects requiring outside financing, is it available? What are the terms of financing? Should the system consider a possible rate increase to finance the “high” cost projects?

Time. How urgent is it to meet each capital need or improvement? Is there a deadline from regulators for some projects? Are the costs required to meet a particular need likely to increase over time?

Types of Needs

Critical Needs. Critical needs are those projects that are absolutely essential to complete. Critical projects are those that have a direct impact on public health or a great negative impact on the system if they are not completed.

Urgent Needs. Urgent needs are those needs that are required for the system to meet mandated deadlines for completion. Consider projects urgent if they have been delayed for a long time, or if their cost will increase considerably if you hold off.

Table 10. Sample of prioritizing needs

Capital Spending Priorities SmallSys # 5, Inc.	
Capital Needs/Projects	Total Estimated Cost
Critical and Urgent Needs	
Replace Flow Meter on Well #1	\$1,800
Replace Chlorinator on Well #2	2,000
Critical Needs	
Storage Facilities:	
Clean/Paint/Repair Water Tank	35,000
Urgent Needs	
Distribution:	
Add 15 New Customers (Line Extension/Adjusted Cost)	2,490
Implement Urgent Meter Change-Out Program	5,639
Other Important Needs	
Equipment:	
Backhoe Acquisition (On Hold)	0
Administration	
Computer and Software Acquisition	2,800
Total Estimated Cost	\$49,729

Use the following table for prioritizing needs. Your water system will have different critical and urgent needs; examples are given for illustration only. You are ready to begin scheduling projects.

Table 11. Sample of scheduling capital projects and defining financial strategies

Schedule and Financing Plan for Capital Improvements									
SmallSys Inc. # 5									
	Total Cost		Year 1	Year 2	Year 3	Year 4	Year 5	Yr6	
Capital Needs		Beginning Balance	\$13,000	\$5,000	\$5,000	\$4,128	\$8,439	0	
		Carryover Funds From Prev. Year	0	6,710	11,710	16,710	20,838	0	
		Loan Capital-Outside Financing	0	0	0	0	0	0	
		Total Available - This Year	13,000	11,710	16,710	20,838	29,277	0	Totals
Critical and Urgent Needs									
a) Replace Flow Meter on Well #1	\$1,800	Project Completed - Year 1	\$1,800						\$1,800
b) Replace Chlorinator on Well # 2	2,000	Project Completed - Year 1	2,000						2,000
Critical Needs									
a) Clean/Paint/Repair Water Tank	35,000	To Be Completed - ?					35,000		35,000
Urgent Needs									
a) Add 15 New Customers (Line Extension)	2,490	Project Completed - Year 1	2,490						2,490
b) Implement Urgent Meter Change-Out Program	5,639	Project Completed - Year 5					5,639		5,639
Other Important Needs									
a) Computer & Software Acquisition	2,800	To Be Acquired - Year 5					2,800		2,800
Total Estimated Cost	\$49,729	Total Expenditures/This Year	\$6,290	0	0	0	\$43,439	0	\$49,729
		Balance - Year End	\$6,710	\$11,710	\$16,710	\$20,838	\$(14,162)	0	

Some projects can be considered critical and urgent at the same time. Replacement of a flow meter or chlorinator could be critical and urgent.

The first two columns of this table are copied from Table 10. Using Table 9, take numbers from Line 12 and put them in the beginning balance category in this table. There were no carryover funds and loan capital for the first year. Thus, total available for this year is \$13,000. List projects and their costs that are to be completed in this first year. Place the total costs of the projects in the total expenditures category in the Year 1 column ($\$1,800 + \$2,000 + \$2,490 = \$6,290$).

The next category is the balance year end. It is the difference between the total available this year and the total expenditures line. Put this number in the category carryover funds from previous year. To calculate the

totals column at the far right of the table, add each project cost for 5 years. Then sum the projects' costs in the totals column.

After the evaluation of this table, the planning committee decided that the tank project should be completed after 4 years. Because there will not be enough funds created by that time to cover the cost of this project, the system faces three possible choices: raise water rates to accumulate reserves more quickly, pull money out of the system's operating reserves, or borrow money to complete the projects. The planning committee decided to borrow funds from an outside source. The system will need to borrow \$14,162.

Because repayment of the loan will begin in Year 5, go back to Table 11 and make some changes: \$14,162 was borrowed in Year 4. This loan would come from a

Table 12. Sample of scheduling capital projects and defining financial strategies with outside financing

Schedule and Financing Plan for Capital Improvements With Outside Financing									
SmallSys Inc. # 5									
	Total Cost		Year 1	Year 2	Year 3	Year 4	Year 5	Yr6	
Capital Needs		Beginning Balance	\$13,000	\$5,000	\$5,000	\$4,128	\$8,439	0	
		Carryover Funds From Prev. Year	0	6,710	11,710	16,710	0	0	
		Loan Capital-Outside Financing	0	0	0	14,162	0	0	
		Total Available -This Year	13,000	11,710	16,710	35,000	8,439	0	Totals
Critical and Urgent Needs									
a) Replace Flow Meter on Well #1	\$1,800	Project Completed - Year 1	\$1,800						\$1,800
b) Replace Chlorinator on Well # 2	2,000	Project Completed - Year 1	2,000						2,000
Critical Needs									
a) Clean/Paint/Repair Water Tank	35,000	Project Completed - Year 4					35,000		35,000
Urgent Needs									
a) Add 15 New Customers (Line Extension)	2,490	Project Completed - Year 1	2,490						2,490
b) Implement Urgent Meter Change-Out Program	5,639	Project Completed - Year 5					5,639		5,639
Other Important Needs									
a) Computer & Software Acquisition	2,800	To Be Acquired - Year 5					2,800		2,800
Total Estimated Cost	\$49,729	Total Expenditures/This Year	\$6,290	0	0	\$35,000	\$8,439	0	\$49,729

loan program administered by a state agency. This amount would be repaid at a 5 percent interest rate over a period of 5 years. Repayment will start in Year 5 with annual repayment of \$3,090, as determined by the bank.

After revising Table 9 to accommodate the loan repayment of \$3,090, the number for Line 2 of the column Year 5 of Table 13 will change. Add to this number the amount of the loan repayment (\$82,264 + \$3,090 = \$85,354). Line 3 of Table 13 will change (\$85,203 – \$85,354 = –\$151). The last column of totals will change.

At the end of Year 5 in Table 12 \$5,639 will be available. You may want to pay back your loan more quickly than was originally planned, or another critical or urgent project might appear in a couple of years.

Table 9 and Table 11 are very important tables. You will update these tables over time. You can add a new Year 5 after completing Year 1, and continue to use these tables for future planning.

Table 13. Sample of capital improvement plan

Projected Funds Available for Capital Improvements - 5 Years							
SmallSys. # 5 Inc.							
	Current Year	Year 2	Year 3	Year 4	Year 5	Year 6	Totals
	\$	\$	\$	\$	\$	\$	\$
(1) Projected Total Annual Revenues (Enter Current Amount Projected at One-half of 1% per Year [.005])	83,500	83,938	84,358	84,779	85,203		421,778
(2) Projected Total Operating & Debt Service Expenses (Enter Current Amount Projected at 2% per Year [.02])	76,000	77,520	79,070	80,651	85,354		398,595
(3) Projected: Operating Surpluses or Deficits (Line 1 Minus Line 2 Equals Line 3)	7,500	6,418	5,288	4,128	(151)		23,183
(4) Annual Amount: Transferred to Capital (Enter Current Year - Project Future Years at \$7,000/Year)	5,000	5,000	5,000	4,128	2,939		22,067
(5) Excess Revenues: Transferred to Reserves (Line 3 Minus Line 4 Equals Line 5)	2,500	1,418	288	0	(3,090)		4,206
(6) Current Year: System Reserves (Enter Current Balance)	15,000						N/A
(7) Current Year Amount: Transferred to Capital (Enter Current Year Transfer)	8,000						8,000
(8) Current Year Balance: System Reserves (Line 6 Minus Line 7 Equals Line 8)	7,000						N/A
(9) Projected System Reserve Balances (Add Year End Totals From Line 5 to Current and Future Year Balances)		9,500	10,918	11,206	8,116		N/A
(10) Future Reserve Balances Transferred to Capital (Enter Capital Transfer Amounts for Future Years)				14,162	5,500		19,662
(11) Ending Balance-System Reserves Year 6 (Year 5, Line 9 Minus Line 10, Insert Result in Year 6)						2,616	N/A
(12) Projected: Total Capital Funds Available per Year (Add Lines 4, 7, and 10)	13,000	5,000	5,000	18,290	8,439		
Total Capital - 5 Years							49,729

Asset Management

One of the most important issues facing public water systems in today's environment involves managing the system's assets in order for the system to become or remain sustainable and to continue to provide a safe and affordable supply of drinking water to residents.

Asset management, also called life cycle management or capital budgeting, is a comprehensive planning process that involves inventorying assets of the water system, evaluating the likelihood of those assets' failure in a specified time frame, and developing a method for replacing or refurbishing those assets.

The Process

As previously mentioned, the asset management process consists of three basic steps. The overarching goal of the process is to supplement the systems long-term financial plan.

Inventorying Assets

The first step in the process is to inventory the system's assets. These assets include storage tanks, treatment equipment and facilities, distribution lines, meters and hydrants. There are several factors to consider when inventorying these assets, including:

- The current asset replacement or refurbishment cost
- The current age of the asset (typically expressed in years)
- The current condition of the asset. This can be done on any type of scale you care to use. A common method is to use a scale of 1 to 5 with 1 signifying that the asset is in very poor condition and 5 indicating a very good condition.
- The expected life of the asset. This is not the depreciable life that is listed in the Internal Revenue Service tax tables, but rather the expected serviceable life. Two significant factors that affect this life are the quality of the raw water that is being treated and the quality of maintenance that has been performed on the equipment or facilities in the past. Sources for this type of information include the professional experience of your certified waterworks operator or other operators in the region and your consulting engineer.

Developing an inventory of the major system assets such as storage tanks, filters, wells, pumps, etc., is relatively simple due to the low number of these assets on each system. For most systems, inventorying assets such as distribution lines, meters, and fire hydrants

would be a very challenging task. Therefore, most systems divide their lines into an area or section scheme (commonly distribution loops or trunks) and attempt to implement regular line and meter change out policies on a rotating basis for each area.

Prioritizing Assets

After the system inventory has been developed, the next challenge is to determine the most likely failure points. While much of this could be accomplished reasonably well by a cursory examination of the system inventory, a more objective method may be to multiply the asset's condition score by its expected remaining life (the asset's expected life minus its age).

This calculation provides a guide to identify assets that need more immediate attention. A relatively low score suggests that the asset is due for replacement or refurbishment fairly soon. Higher scores suggest that asset replacement or refurbishment is not as immediate a concern.

The following table provides an example of how assets might be prioritized.

Asset	Remaining Life	Condition Score	Prioritization Score
Elevated Storage Tank	25	5	125
Chlorinator Heads	3	2	6
Line Segment 1	20	4	80
Line Segment 2	4	1	4

In this example, we can see that the two assets requiring more immediate attention are the chlorinator heads and Line Segment 2. While in this simple example, it is fairly obvious that concern for the elevated storage tank and Line Segment 1 can be postponed due to their expected remaining lives, an objective approach such as this provides a more concrete guide to asset management than cursory examinations.

Once the assets are prioritized for replacement or refurbishment, the system then needs to develop a strategy for acquiring the funds needed for replacement or refurbishment. A fairly prevalent strategy in the past has been to rely on grants to fund projects, but this type of strategy will likely not be feasible in the future.

While the system inventory and prioritization tasks are likely to be the responsibility of the certified waterworks operator, the decisions regarding funding must be made and implemented by the board.

Given the declining availability of hundred percent grants and forgiveness loans, the board must likely decide on whether to pay for the asset's replacement/refurbishment from its own funds or to supplement a

loan with existing funds. In either case, the board must develop a strategy to accumulate sufficient funds to implement the strategy.

This will likely involve the establishment of a set-aside or “sinking” fund that has a sole purpose of financing the system’s asset management strategies. There are several steps involved in the funding decisions.

The first step is to determine the expected remaining useful life of the asset in its present state. This provides a guide to the time available to accumulate the funds.

Next, determine the likely cost of the asset’s replacement or refurbishment. In calculating this cost, it is important to remember that the asset’s original price is irrelevant. Through the counsel of your certified waterworks operator, consulting engineer and vendors, ascertain the present cost of replacement or refurbishment. Then develop an estimate of the annual percentage increase in this cost.

This estimate can be developed in several ways. The most accurate method may be to get the asset’s cost for the past few years from vendors and use an average of these annual price increases as an estimate of the asset’s inflation rate. This type of estimate is particularly useful if the asset is to be replaced.

If the system is going to use the same type (size, construction, etc.) of asset as replacement, a good indicator of the annual percentage price increase would be to subtract the asset’s original cost from its current cost and divide that ratio by the asset’s age in years. This yields the average price increase per year. Dividing the average annual price increase by the original purchase price provides the annual percentage increase in the cost of the asset.

For refurbishment, the information contained in the previous example may be difficult to obtain. In this case, an annual average of the overall inflation rate for the past several years could be the best estimate to use as a guide in making the funding level decision. Regardless of the method of estimation chosen, remember that like any other part of the long-range financial plan, the cost increase numbers that are used must be updated (at least) annually in order to be effective.

After the annual cost rate has been determined, it is possible to estimate a future cost for the asset. To do this, multiply the current asset cost by one plus the annual percentage increase for the number of years in the remaining life of the asset. For example, if the cost of a chlorinator head is \$2,000 and its expected remaining life is 4 years, then the expected future cost of the chlorinator (assuming that you expect the cost of the heads to increase 3 percent each year) is:

$$\begin{aligned} \$2,251 &= \$2,000 \times (1+0.03) \times (1+0.03) \times (1+0.03) \times (1+0.03) \\ &= \$2,000 \times (1+0.03)^4 \end{aligned}$$

Now that we know the asset’s expected remaining life and future cost, we need to begin the hard part: developing a plan to finance our asset replacement/refurbishment strategies.

The initial step in developing this plan is to examine each asset’s information individually and determine a feasible strategy for paying for that asset. Given our previous assumption regarding the future availability of 100 percent grants (and loans), we will limit our funding discussion to setting aside system monies to at least partially offset the amount of loan funding that will be required.

There are several factors that will determine the level of system funding that is desired for asset replacement and refurbishment. External factors such as the cost of credit (the interest rate charged by the financing institution) and the availability of credit are factors that the water system cannot influence, at least in the short term.

However, the system can affect some of the internal factors that influence the level of funding that can be set aside and, in turn, the amount that will have to be borrowed. The first of these is its capacity for not only increasing the amount that the system contributes toward the replacement or refurbishment of a major asset, but will also increase the willingness (and therefore lower the cost) of financial agencies to lend capital to the system.

This capacity can be increased in two distinct ways. All too often, we think about the revenue side of the system and assume that increasing rates is the optimal way to increase the nonprofit system’s carryover funds. Rates are very important and should be examined regularly to determine if there is a need for adjustment.

However, expenses should also be regularly examined in order to determine if the management has been good stewards of the system’s resources. A good customer relationship strategy would be to publicize the fact that the system’s board regularly undergoes a comprehensive review of expenses in order to be able to cut the cost of water to its customers. The review may not result in cost savings in any given year, but your customers will always appreciate a good faith effort to save their funds.

Once the future asset cost has been estimated and the amount that the system will contribute toward replacement or refurbishment costs has been determined, then the system must determine the method that it will use to accumulate the funds necessary to reach these goals.

Let’s assume an example of an elevated storage tank that will need to be replaced in 20 years. If the current cost of the tank is \$600,000 and we expect the average cost of tanks to rise three percent per year, then we can estimate that the future cost of the tank is \$1,083,667.

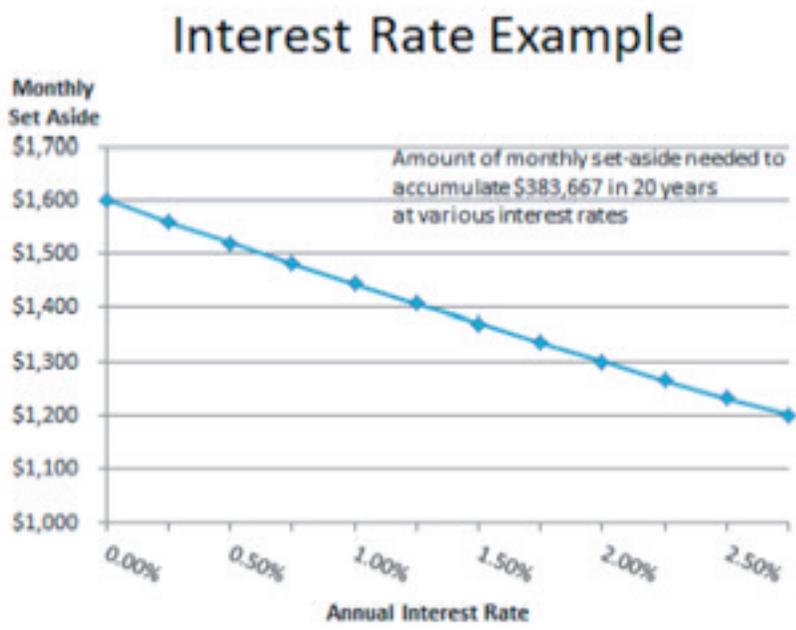
If our goal is to borrow \$700,000 in 20 years, then we need to accumulate \$383,667 of system funds. An easy way of estimating the amount of our set-aside funding is to divide this goal by the number of years (20) or months (240) to determine the amount invested in the set-aside account each year or month.

However, this method ignores the “magic” of compounded interest. If the system is diligent in maintaining the set-aside fund, then compounded interest can greatly reduce the amount that is required to be saved to meet the asset management goals.

In our example, setting aside the \$383,667 needed in 20 years to purchase a new tank would require approximately \$1,600 per month if the funds were deposited into a checking account that earned no interest. Howev-

er, even with low interest rates (for our example, use a 2 percent annual rate), then the amount required to be set aside each month would only need to be \$1,300. The following graphic demonstrates the effect of changing interest rates on the amount of monthly investments to the set-aside fund that would have to be made for this example.

While it would be to the system’s benefit to set more dollars than are needed aside to fund future planned improvements and unplanned emergencies, the system can save \$72,000 by investing the funds in a stable, safe instrument. The following chart shows the amount of funds that would need to be invested in the set-aside account each month for our example using various interest rates.



■ Long-Range Financial Planning: A Learning Exercise ■

Please respond to the following statements and questions. Circle the letter or letters for the correct answer or answers. Statements and questions may have more than one correct answer.

1. The major planning steps in the budgeting and rate setting process are done in this order:
 - A. examining the current water use, examining the current income and expenses, looking at the future of the region and the impact of changes on the rural water service area, planning replacements and additions to be made to the system, projecting annual costs, and setting rates to cover these costs.
 - B. estimating changes in the system, identifying current income and expenses, and setting rates to cover the expenses.
 - C. increasing rates, comparing receipts to costs, and adjusting costs to equal expected receipts.
 - D. projecting changes and their impact on the service area, projecting customer additions to the water system, comparing the costs of adding new customers to the additional revenues received, and adjusting the rates if necessary.

2. Before making a decision on rate changes, the board should make sure that
 - A. the collection policies and procedures are such that all the income due is being collected each month.
 - B. the water system is consistently monitored for water losses and an ongoing leak detection program is followed.
 - C. the amounts budgeted for reserve funds and/or debt payments are sufficient to pay all note payments and to build enough funds for replacements and expansions of the water system.
 - D. none of the above.

3. In the future, rural water associations and small town water departments should:
 - A. deduct expected grants from annual expenses before considering rate changes.
 - B. expect grant funds to expand and expect grant proposals to cover all major replacements and added wells, tanks, and lines.
 - C. adjust income needs only for grants already received.
 - D. discontinue its practice of applying for grants because grant funds are shrinking.

4. In setting rates, the boards of rural water systems should
 - A. recommend rates that produce enough income to equal all expenses for the year including the total costs of replacing wells and tanks scheduled for replacement for that same year.
 - B. recommend rates that cover only the variable costs for the year.
 - C. recommend rates that cover all expenses except those expected to be offset by grants or loans.
 - D. recommend rates that cover all annual costs including debt payments and contributions to a reserve account.

5. Board member I.M. Helpful has been given the responsibility of determining the costs that must be covered by the funds from water bills. The Wetville board of directors has the following information from their records:

Cost of new well and pump	\$200,000	Outstanding debt	\$100,000
Annual note payments	25,000	Price of new truck	40,000
Reserve fund for emergencies	30,000	Annual equipment expenses	50,000
Personnel expenses	60,000	Utilities	10,000
Supplies for the year	15,000	Expected bank deposits	210,000
Office expenses	10,000		

What is the total that should be used for determining rate schedules?

- A. \$300,000
 - B. \$740,000
 - C. \$200,000
 - D. \$440,000
6. Boards of nonprofit rural water associations in planning their business operations
- A. cannot accumulate funds for reserves because this is considered profit and is illegal.
 - B. should not borrow money under any circumstances because paying back notes and paying interest are never good board decisions.
 - C. should always keep the rates as low as possible even if this means not providing funds for reserve accounts.
 - D. should always budget for reserves and should not be opposed to having outstanding loans when the long-term best interest of the association is being served.
7. Setting a flat charge so that every customer or water user pays the same amount each month
- A. always saves money for the organization because meters do not have to be purchased and no one has to be paid for reading meters.
 - B. usually is more costly in the long run because big consumers do not pay their fair share, water is wasted, and there is usually excessive wear and tear on the water system.
 - C. makes it much easier for the board to make decisions regarding new water demands and identifying new wells that are needed.
 - D. gives users an incentive to reduce the amount of water used so that everyone's rates can be lowered.
8. If water tables are being rapidly lowered each year, the number of customers is rapidly increasing, and the supply of water is a major concern, a rural water system board would logically select
- A. a decreasing rate schedule.
 - B. an increasing rate schedule.
 - C. a uniform rate schedule.
 - D. no particular rate scheme because monitoring is needed, and the structure of the rate schedule has no impact on water consumption.
9. In making sound business decisions rural water system managers and boards would select this order of business:
- A. plan system changes, set rates, select record-keeping system, determine present expenses and income, examine projected demographic changes, and prepare a planning budget.
 - B. determine present expenses and income, examine demographic changes, plan the budget, select the record-keeping system, plan the water system changes, and set rates.
 - C. select the record-keeping system, determine present expenses and incomes, examine demographic changes, plan the water system changes, prepare the budget, and set rates.
 - D. none of the above.

10. The rate schedule for the Big Usesome Water Association is a \$10 base charge for the first 2,000 gallons, \$2 per 1,000 gallons from 2,000 - 10,000 gallons, and \$1 per 1,000 gallons for all usage over 10,000 gallons. If Mr. B.G. Drripp's consumption for the month was 28,000 gallons, then his monthly water bill would be
- A. \$48
 - B. \$58
 - C. \$44
 - D. none of the above
11. The rate schedule for the Bone Dry Water Association is \$12 for the first 1,500 gallons, \$3 per 1,000 for 1,500 - 7,500 gallons, \$4 per 1,000 for 7,500 - 19,500 gallons, and \$8 per 1,000 for all over 19,500 gallons. Mr. N.A. Bind filled his small fish pond in August and used 44,500 gallons for that month. His water bill for August was
- A. \$278
 - B. \$313
 - C. \$54
 - D. none of the above.
12. The Prudent Home Water Board estimated that the projected total annual costs for determining their rate schedule was \$216,000, with one-third of these costs being fixed costs. The average household uses 10,000 gallons of water per month, and there will be 600 customers. The board wants to select the best rate schedule, and this selection is likely to be
- A. \$12 for the first 2,000 gallons and \$2 per 1,000 for all over 2,000 gallons.
 - B. \$20 for the first 2,000 gallons and \$1.25 per 1,000 for all over 2,000 gallons.
 - C. \$10 for the first 2,000 gallons and \$2.50 per 1,000 for all over 2,000 gallons.
 - D. none of the above.
13. In examining the business operations of a small rural water system, when costs are believed to be rising too rapidly the first priority should be
- A. increasing rates
 - B. analyzing which costs are increasing, finding out why costs are increasing, and looking for ways to reduce costs
 - C. deciding if customer income levels have risen enough to justify rate increases
 - D. examining other ways to raise incomes before looking at rates
14. Historically, rural water systems have been more successful and have had less problems with customers if they
- A. keep the financial condition of the organization to themselves and inform users only when there is a need to raise rates.
 - B. have an open attitude, keep users informed on important business decisions, and communicate with the customers on a periodic basis during the year.
 - C. mail the customers detailed records of every financial decision made at every board meeting.
 - D. keep business records in a known location so customers can come to that location and review records anytime scheduled during normal business hours.

Please review this exam after the questions are answered, and give yourself a grade. Think about the questions in terms of how some of these ideas could be used to improve your water system management.

Rates

If a thorough examination of the system's finances indicates that a rate adjustment is in order, then the system should look at both its rate structure and rate levels to ensure that its long-term goals and objectives can be met.

Considerations for Selecting a Rate Structure

When considering a rate structure for your system, consider the following questions carefully:

- Does the rate structure accommodate the current and anticipated expenses?
- Does the rate structure promote water conservation?
- Is the rate structure fair to every category of customer?
- Does the rate structure generate enough income after the base minimum is set?

System expenses. It isn't enough for a system simply to "break even" in its business operations. Systems must also be financially prepared to pay for expenses over which they have little control. There are many system expenses, such as:

- Increases in treatment costs, electricity bills, equipment repair and maintenance, etc.
- Seasonal changes in water use
- Natural disasters such as flooding or drought
- Emergencies
- Escalating insurance rates
- Changes in customer demand

Promoting conservation. In many areas, groundwater sources are becoming more difficult to find and are more costly to treat because of stricter federal and state regulations and contamination. For all systems, water conservation is becoming a more serious concern. As the comparison of water rates on the following pages will show, some rates encourage customers to save water, whereas others may actually encourage customers to waste it.

Customer account categories. Not all customers have the same needs. Because of this, it would not be fair to place all customers in the same broad category. For example, a family of three doesn't place the same demands on a system as an area concrete company does, using thousands of gallons each day.

The categories of customer accounts are the following:

- Residential
- Public service
- Commercial
- Industrial/agricultural

Residential customers include owners or renters of homes and mobile homes. Often, the majority of water system customers are residential customers.

Public service customers are agencies and organizations that provide special community services. Public service customers may also include neighboring communities or bulk purchasers. Public service customers include the following:

- Fire departments
- Public golf courses
- Parks
- Fairgrounds
- Other service organizations

Commercial customers include small businesses, restaurants, and mobile home parks on a single master meter.

Industrial/agricultural customers may use more water than the other three categories combined. Industrial customers may use water for manufacturing or construction. Agricultural customers may include dairies and feed lots.

Base minimum. Before you decide which rate structure to use, consider setting a base minimum. A base minimum is the first component of all rate structures except for the one-charge or blanket rate. Base means the customer pays a minimum rate regardless of the amount of water used. This minimum covers a major portion of a system's costs. It generates enough income to cover fixed expenses of a system, such as insurance, bond payments, and other nonproduction costs.

Once you have identified your system's needs, conservation policy, categories of customers, and base minimum, you are ready to select a rate structure.

Projecting Revenue From Rate Schedules

The accuracy of a Board's revenue projection depends on maintaining detailed records of water use. Accurate records of total gallons sold for each rate is essential. Having customer profiles on water usage adds to the accuracy of estimating future customer usage. The more detailed the information, the more accurate the results; but more details require proper recording forms that categorize customers according to the amount of water consumed on a monthly and yearly basis. If customer profiles are not available, water consumption by base charges and by rate classification is necessary. Blank tables in the Appendix are for estimating water production, listing loans and grants, for budgeting and planning, and for setting water rates. If there is no computerized program for doing this, then the proper rate has to be selected by trial and error.

How Much Do We Charge?

The total cost of operation for your system and your projections for the future will dictate how much income your system needs. Rates should be set based on actual expenses of the system, depreciation, and the needs for the next year. You can use a financial audit to determine the amount your system needs to generate. When you determine the amount, you may want to examine the types of rate structures used to generate income. In what follows, you will learn more about how to select a rate structure that meets the needs of your system.

Now we will examine five basic types of rate structures. Each one will be evaluated according to how well it covers system needs, how well it encourages water conservation, and how fair it is to customers. These rates are as follows:

- Flat rates
- Block rates
 - Decreasing block rates
 - Increasing block rates
 - Uniform rates
 - Fixed Minimum Charge
 - No Minimum Charge

Flat Rates. Flat rates are the most basic type of water rate. This rate structure is sometimes referred to as a one-charge or blanket rate. Systems with flat rates charge every customer the same amount for water each month regardless of how much is used. A flat rate is the simplest rate structure for a system to administer. Billing does not change from one period to the next, and the system doesn't have to buy, read, or maintain meters. The National Rural Water Association, however, does not endorse the flat rate structure for the following reasons.

Income vs. Expenses: Poor. Flat rates may not provide systems with the necessary money they need to cover system needs and expenses. During the summer, when water usage is higher, production costs increase, where as income remains the same.

Conservation: Poor. Flat rates encourage waste. Regardless of how much customers use, their bills will always be the same. A flat rate may place an added burden on a system's wastewater system. Because systems using flat rates seldom use meters, operators may be unaware of costly leaks and other causes of water loss. Because repaired leaks do not affect the income of the system, there is less incentive for the system to find and repair leaks.

Fairness to Customers: Poor. Flat rates are unfair to different customer categories. In a flat rate structure, a single customer using only 100 gallons a day pays the same as a local industry that uses thousands of gallons of water each day.

Decreasing Block Rates. In a decreasing block rate structure (sometimes referred to as declining or descending), each additional unit (typically 1,000 gallons) of water costs less than the previous units the customer used. A base minimum may also be used in the decreasing block rate structure.

Here is an example of a decreasing block rate structure with a base minimum:

Amount	Unit Price
First 2,000 gal	\$13.00
Next 1,000 gal	\$2.50
Next 1,000 gal	\$2.00
Next 1,000 gal	\$1.50

Decreasing block rates are commonly used throughout the United States, but they are currently becoming less popular in drought-common areas.

Income vs. Expenses: Fair. A decreasing block rate is somewhat better than a flat rate when it comes to matching income to expenses. If organized carefully, a decreasing block rate can adequately pay a system's expenses, but it may not provide enough income to cover unexpected demands and future needs.

Conservation: Poor. Decreasing block rates actually discourage water conservation. To the customers, the more they use, the less they will have to pay for it. Because of this attitude, many water systems in states where water shortages are common have abandoned the decreasing block rate structure.

Fairness to Customers: Fair. Decreasing block rates may be unreasonable for small household customers. People who only use a few thousand gallons pay more per gallon than businesses that use much more water. Decreasing block rates reward heavy users with quantity discounts.

Increasing Block Rates. In an increasing block rate structure (sometimes referred to as ascending), each additional unit of water costs slightly more than the previous units the customer used. A base minimum may also be used in the increasing block rate structure.

For example:

Amount	Unit Price
First 2,000 gal	\$13.00
Next 1,000 gal	\$2.00
Next 1,000 gal	\$2.50
Next 1,000 gal	\$3.00

Income vs. Expenses: Excellent. If increasing block rates are set correctly, they will usually provide income for system operation and future needs. Increasing block rates are an excellent way to increase income for the system. This is because income increases as expenses on the system increase.

Conservation: Excellent. Increasing block rates encourage customers to use water wisely. Many systems facing seasonal water shortages use increasing block rates to discourage unnecessary water use. Customers are more likely to use water wisely if they know they will have to pay more for each unit of water they use.

Fairness to Customers: Fair. Unless they are used for conservation reasons, increasing block rates may be unreasonable for large families, municipal customers, businesses, and industrial/agricultural customers. Most small households and businesses should not be affected by increasing block rates.

Uniform Rates, with a Fixed Minimum. In a uniform rate with a fixed minimum, the unit price for water is constant. A base minimum may also be used in the uniform rate structure. For example:

Amount	Unit Price
First 2,000 gal	\$13.00
Next 1,000 gal	\$2.00
Next 1,000 gal	\$2.00
Next 1,000 gal	\$2.00

Income vs. Expenses: Excellent. If uniform rates are set correctly, they will allow the system to keep up with customer demands and expenses. Even during peak demand periods, a system may expect to receive enough income to cover production costs and future needs.

Conservation: Good. Since everyone pays the same amount for each unit consumed, there is no incentive to waste water as with flat or decreasing block rates. If uniform rates are set properly, conservation is encouraged.

Fairness to Customers: Good. Of all the rates covered, the uniform rate is probably the most fair to all categories of customers. Because all customers pay the same price per unit used, household, business, and industrial customers are treated equally. Although some high-water users may argue that uniform rates penalize them, uniform rates allow systems to keep the price per unit lower than in other rate structures.

Uniform Rates, with No Fixed Minimum. In the uniform rate with no fixed minimum, there is one cost per thousand gallons. For example: \$4.50 per thousand gallons.

Amount	Unit Price
First 1,000 gal	\$4.50
Next 1,000 gal	\$4.50
Next 1,000 gal	\$4.50
Next 1,000 gal	\$4.50

Another scenario that will show the cumulative cost of this rate structure:

- 1,000 gallons will cost the customer \$4.50
- 8,000 gallons will cost the customer \$36.00

The single rate structure can greatly benefit a water system because it is easy to administer and it removes the need to police multiple hookups on a single meter. One area that it may discourage is large economic growth but if a water system is proactive they can make arrangements accordingly to continue to have economic development.

Income vs. Expenses: Good. The single rate structure does produce adequate revenue to meet financial needs, but the rate structure may not be the best for the small water system. The block rate will typically need to be higher than would be the case if a minimum rate were to be charged. Also, because there is no minimum base that the system can count on throughout the year, revenues tend to have wider seasonally fluctuations than would be the case in a rate structure with a minimum charge. A water system would need to review their current rate structure and customer consumption before transferring to the single rate considering there is no fixed minimum that will for sure be paid in every month. Also, high end users may consume less as a result of the price signal; this would result in less revenue being generated for the water system. So, if a single rate structure is used, the rate should take into account a drop in consumption from the high end users.

Conservation: Excellent. The single rate structure actually sends a price signal to customers, which promotes them to conserve. Minimal users will likely not change their consumption due to the fact of their water bill will be lower. These rates would encourage higher usage customers to act more responsibly.

Fairness to Customers: Excellent. This equalization of water rates would be fair to all users by only paying for water that is registered by the meter. Fixed income users, realtors, builders, and others who only use a minimal amount would pay less and multiple and extra users that are not paying multiple minimums will pay their fair share. The proportion of customer consumption to revenue generated by the customers becomes closer to equal.

Table 14. Sample of fixed and variable costs

Item	Fixed Costs	Variable Costs	Total Costs
Personnel	\$50,000	\$25,000	\$75,000
Equipment and Vehicles	30,000	30,000	60,000
Supplies	0	50,000	50,000
Office Expense	5,000	0	5,000
Utilities	0	12,000	12,000
Telephone	2,000	0	2,000
Contracts	2,000	8,000	10,000
Debt Payments	20,000	0	20,000

Table 15: Comparison of Rate Structures on Expenses

	Fixed Costs*	Fixed Revenue	Variable Costs*	Variable Revenue	Total Costs*	Total Revenue	Operating Ratio
1. Flat Rate	\$129,000	\$192,000	\$125,000	\$0	\$254,000	\$192,000	0.76
2. Block Rate- Decreasing	\$129,000	\$192,000	\$125,000	\$80,580	\$254,000	\$272,580	1.07
3. Block Rate- Increasing	\$129,000	\$192,000	\$125,000	\$121,500	\$254,000	\$313,500	1.23
4. Uniform Rate- Fixed Minimum	\$129,000	\$192,000	\$125,000	\$101,040	\$254,000	\$293,040	1.15
5. Uniform Rate- No Minimum	\$129,000	0	\$125,000	\$313,740	\$254,000	\$313,740	1.24

Revenue and Expenses will be based on 800 customers using 69,720,000 gallons annually (87,150 gallons/customer/year or 7,265.5 gallons/customer/month)

* The Fixed and Variable costs when compared to Fixed and Variable revenue will be the same as the Total Fixed costs for all rate structures.

1. Flat Rate = The flat rate is \$20 per customer
2. Block Rate-Decreasing =The fixed rate is \$20/First 2,000 gallons, the flow rate will be \$2/Next 1,000 gallons, then \$1.50/per 1000 gallons after
 - 0-2,000 gallons is \$20.00
 - 2,001-3,000 gallons is an \$2.00
 - 3,001 and up is \$1.50 per 1,000 gallons
3. Block Rate-Increasing = The fixed rate is \$20/First 2,000 gallons, the flow rate will be \$2/Next 1,000 gallons, then \$2.50/per 1000 gallons after
 - 0-2,000 gallons is \$20.00
 - 2,001-3,000 gallons is an \$2.00
 - 3,001 and up is \$2.50 per 1,000 gallons
4. Uniform Rate-Fixed Minimum = The fixed rate is \$20/First 2,000 gallons, the flow rate will be \$2/per 1000 gallons after
 - 0-2,000 gallons is \$20.00
 - 2,001 and up is \$2.00 per 1,000 gallons
5. Uniform Rate-No Minimum = All customers will pay \$4.50/per 1,000 gallons of consumption

Assumptions associated with Table 15

- All customers are using the exact same amount of water monthly. This is assumed for simplicity for this example. Very rarely, if ever, will all customers use the exact same amount of water in a particular time frame.
- For the **Block Rates (BR)**, there are only two (2) rate blocks after the fixed rate. This is done for ease of calculation; most systems will have more blocks.
- An addition of another block to the example's **Block Rate-Decreasing** structure would result in a decrease in variable revenue (fixed revenue would remain constant). This would result in a decrease in the system's operating ratio.
- An addition of another block to the example's **Block Rate-Increasing** structure would result in an increase in variable revenue (fixed revenue would remain constant). This would result in an increase in the system's operating ratio.
- If all of the customers did not use the exact same amount of water but did consume the total amount listed, there would be no change in Total Revenue and Operating Ratio for the **Flat Rate** and the **Uniform Rate-No Minimum**.
- If customers did not consume the same amount of water, fixed revenue for the **Block Rate-Decreasing**, **Block Rate-Increasing**, and the **Uniform Rate-Fixed Minimum** structures would remain unchanged. There would be an increase in variable revenue due to an increase in gallons above the minimum (assuming that some customers will not consume the 2,000 gallon minimum). In this case, the system's operating ratio would increase.

Rate Structures:

For each rate structure scenario, the same cost information is used. The example system has 800 customers using 69,720,000 gallons annually. In these examples each customer uses exactly the same amount of water (7,263 gallons) for each of the twelve (12) billing cycles. Table 14 provides an annual summary of the system's expenses (costs): Table 15 provides the fixed and variable cost totals (personnel, equipment and vehicles, office expense, telephone, contracts, debt payments, and reserves are fixed costs and personnel, equipment and vehicles, supplies, utilities, and contracts are variable costs).

In our flat rate example, each customer is charged \$20 for their total consumption. This results in fixed revenue of \$192,000 and no variable revenue since the amount that the customer is charged is not based on use. Total revenue is divided by the total cost to get an operating ratio of 0.76. This shows that this rate structure at this amount only generates enough revenue to cover 76% of costs.

Four different types of block rate structures are also presented in Table 15. The Block Rate-Decreasing has a fixed minimum charge of \$20 for the first 2,000 gallons of consumption. The flow rate after the first 2,000 gallons is \$2 for usage of 2,001-3,000 gallons and then \$1.50 per 1,000 gallons for consumption over 3,000 gallons. With this structure, \$192,000 in fixed revenue is collected from the fixed minimum charge and \$80,580 in variable revenue is collected from the flow rate for gallons above the minimum. This results in total revenue of \$272,580 making the operating ratio 1.07. If additional blocks were implemented, decreases in variable revenue, total revenue and the operating ratio would result.

The Block Rate-Increasing structure has a fixed minimum charge of \$20 for the first 2,000 gallons. As before, this results in \$192,000 of fixed revenue. The flow rate after the first 2,000 gallons is \$2 for usage of 2,001-3,000 gallons and then \$2.50 per 1,000 gallons for consumption over 3,000 gallons. This structure's variable revenue is \$121,500, total revenue is \$313,500 and the operating ratio is calculated as 1.23. If additional blocks were implemented, variable revenue, total revenue, and the operating ratio would all increase.

The Uniform Rate-Fixed Minimum, charges \$20 for the first 2,000 gallons and the flow rate is \$2 per 1,000 gallons of consumption over 2,000 gallons. As before, this results in \$192,000 of fixed revenue and the structure's variable revenue is \$101,040. This makes the total revenue \$293,040 and the operating ratio is calculated as 1.15.

The Uniform Rate-No Fixed Minimum, charges the same flow rate regardless of usage but has no minimum fee. The structure's rate used is \$4.50 per 1,000 gallons of consumption. There is no fixed revenue collected because if a customer were to have no usage then they would pay nothing. The variable revenue is \$313,740 and because there is no fixed revenue, \$313,740 is also the total revenue making the operating ratio as calculated is 1.24.

Planning, Budgeting, and Rate Setting and My Water System:

■ A Self-Assessment ■

Please respond to the following statements that relate to your water system management. Select one answer. The answers reflect the opinion of the board member making the assessment, but the joint opinions of the board members should reflect the strengths and weaknesses of the board and help identify areas where improvement is needed.

1. To help keep up with trends in total water used in our water system, we
 - A. keep records for up to 10 years on the annual gallons of water used, the number of users, water used by different classes of users (if applicable), monthly water use, and annual water use per customer; we have estimates of water losses from leaks and unmetered sites.
 - B. keep records for up to 5 years on annual water use, number of users, use per customer, and we estimate water losses each year.
 - C. have historical records on file of water use, number of users, and average use per customer, but there are some gaps in the records.
 - D. keep some records, but they are scattered and these are based on rough estimates.
 - E. keep no records of water use and water losses.

2. For my water system,
 - A. every water user is metered and records are kept on each customer's usage.
 - B. all private users are metered, but some public users are not metered and no records of water use can be kept on these.
 - C. most but not all private users are metered and billed, and we do not meter public users.
 - D. we use meters, but the location of every meter is not known or is not read on a monthly basis.
 - E. we do not use meters but charge everyone equally, regardless of water consumption.

3. Our board
 - A. requires that we keep monthly records of our expenses and income by major categories and that we summarize these into annual reports. We use these for preparing annual budgets and for long-term planning.
 - B. requires that we keep records of monthly income and expenses by categories, and we use these in planning but do not prepare budgets each year. We make long-term plans when we feel they are needed.
 - C. has monthly income and expense records but do not categorize them to help identify exactly where our money is coming from and where our money is going.
 - D. has some financial records, but we do not keep them long enough for them to be of much use in our financial planning.
 - E. does not keep detailed records of income and expenses.

4. For our inventory of machinery and equipment, our board
 - A. requires that permanent records include the age, expected life, date and cost of major repairs, annual maintenance checks, and dates and plans for major repairs or replacements, projected costs of repairs, and plans for new purchases.
 - B. requires that records be kept on maintenance and major repairs but we do make plans for replacement on an item-by-item basis.
 - C. asks that operators and managers make repairs when needed and report to the board when major repairs or purchases are needed as well as reporting periodically on the status of the machinery and equipment inventory. No written records are maintained.
 - D. asks that operators or managers keep up with equipment repair and replacement needs, but no records or reports are required.
 - E. keeps no inventory records on purchases or repairs.

5. Our financial record-keeping system is
 - A. computerized, kept current, income and expenses are categorized, and accurate financial information can be generated for board use anytime it is needed.
 - B. computerized income and expenses are categorized, and financial reports can be generated anytime they are needed. Often recent income and expense items have not been included.
 - C. not computerized, but we have an organized system so that income and expense statements can be generated monthly from deposit receipts, checkbooks, and bank statements.
 - D. based mostly on the monthly bank statements that we use to put together financial reports when required.
 - E. poorly maintained, and it is difficult to develop accurate reports when they are needed.

Financial Assistance

Many water systems need additional funds to meet critical and urgent needs and to upgrade their systems. Potential funding sources include loans and grants from federal and state agencies, banks, foundations, and other sources.

Sources of the funding programs for small water systems include the following:

- Mississippi State Department of Health (MSDH)
- Mississippi Development Authority (MDA)
- USDA-Rural Utility Service (RUS)
- Economic Development Administration (EDA)
- USDA-Enterprise Communities/Empowerment Zone (EC/EZ)
- Appalachian Regional Commission (ARC)
- Community Loan Fund (CLF)

Loans and Grants

Grants have been the lifeblood of some rural water systems. Grants have also allowed some poorly managed systems to survive and have allowed others to survive with artificially low rates. The continuation of many grant programs is in serious jeopardy. Funds available for grants have been decreasing.

Grant applications that have been approved may go unfunded. Boards should continue to seek grant funds, but the time has come to prepare financial plans and rate structures that do not depend on grant money. Grant funds for specifically designated expenses may replace funds generated for that purpose and reduce the amount necessary to add to reserve funds. Only grants already received or guaranteed should impact reserve fund accounts and water rates. Grant funds then become a bonus to the system.

The proper use of loans and credit remains a viable option for boards of directors to pursue. Almost all businesses view borrowing as a part of doing business. Non-profit organizations should have this same view. Borrowing can be an essential part of financing capital outlays and helping to meet financial emergencies. Loans, however, cannot take the place of having sufficient reserves, and paying off debts should not be a signal that rates should be lowered.

Boards and managers may already have credit lines established at particular banks or lending agencies, but shopping around for the best loan rates should be the standard procedure for large loans. The needs of the water system and the best interests of its users must be paramount.

Funding Sources. Mississippi State Department of Health offers emergency loans and revolving loans for small water systems. The Emergency Loan Program is

intended to provide emergency loans to counties, municipalities, districts, or other water organizations that are tax exempt for the repair, replacement, or construction of drinking water projects that meet the Local Governments and Rural Water Systems Improvements Board's definition of an emergency. This Board has established an annual interest rate of 2.0 percent, compounded monthly, to be amortized within 5 years after project completion.

The Revolving Loan Program is intended to provide low interest loan funding to counties, municipalities, districts, and other water organizations that are tax exempt for the construction of new water systems, the expansion or repair of existing water systems, or consolidation of new or existing water systems. The annual interest rate for this loan is 1.95 percent (FY 2009 and 2010), compounded monthly, to be amortized within 20 years of project completion. Please contact the Drinking Water Program Coordinator, Mississippi State Department of Health at (601) 576-7518.

The Mississippi Development Authority offers Community Development Block Grants to public entities. The minimum amount for these grants is \$100,000; the maximum is \$600,000. This department also provides a Capital Improvements Revolving Loan Program. The maximum amount available per year is \$1,000,000. For more information on these programs, please call Mississippi Development Authority at (601) 359-3179.

USDA-Rural Development provides the most significant and widely available source of financing for rural drinking water systems. Eligible applicants include the following:

- public bodies such as municipalities, counties, districts, or other political subdivisions of a state
- not-for-profit organizations such as associations, cooperatives, or private corporations

USDA-Rural Development offers money under certain conditions for improvement projects, loan and grant programs, emergency grants, and guaranteed loans. Contact the following address: USDA-Rural Development, Washington, DC 20250-0700.

The Rural Utility Service (RUS) administers a water loan and grant program to improve the quality of life and promote economic development in rural America. RUS offers direct and guaranteed loans, grants, technical assistance and training grants, and rural water circuit rider technical assistance. You can write or call the RUS local office or the administrator of RUS: Administrator, Rural Utility Service, U.S. Department of Agriculture, 14th Street and Independence Ave., SW, Washington DC 20250, or call (202) 720-2567.

The U.S. Department of Commerce and Economic Development Administration offers grants to local governments for job creation and preservation projects. For information, contact Economic Development Administration, Atlanta Office, or call (404) 730-3020.

Many communities and water associations located in northwest Mississippi are in a designated USDA target area and qualify for additional loan and grant funds. For more information, contact the USDA-EC/EZ Coordinator at (662) 965-5457.

Other communities located in northeast Mississippi are eligible for financial assistance for water system improvements through the Appalachian Regional Commission. The eligibility of participation in this grant program is contingent upon the creation or preservation of jobs. For more information, contact ARC at (662) 844-1184.

Community Resource Group has a revolving loan fund that provides low-interest loans to rural water systems throughout the South, including Mississippi. Eligible purposes of the Community Loan Fund include providing matching funds for other loan/grant programs, small rehabilitation projects, line extensions, and emergency repairs. For more information, contact the Community Loan Fund at (479) 443-2700.

The following funding matrix provided by the Mississippi Department of Environmental Quality provides an overview of many of the grant and loan programs in the state.

MISSISSIPPI

GRANTS & LOANS FOR WASTEWATER, DRINKING WATER, STORM WATER, AND SOLID WASTE PROJECTS

February, 2011

Program	Type of Facilities	Eligible Recipients	Grants/Loans	Participation %	Min/Max Amount	Terms/Conditions	Contact
1. Water Pollution Control Revolving Loan Fund Program	Wastewater, Storm Water, & Non-Point Source Pollution Control	Public Entities	Loans	100% or Match	None	1.75% loans for FY-11 In the 1.75% to 2.00% range for FY-12 loans 20 yr. repayment	MS Department of Environmental Quality Ph. (601) 961-5171
2. Water Pollution Control Emergency Loan Fund Program	Wastewater	Public Entities	Loans	100% or Match	\$350,000 Max	4.0 % loans, 10 yr. repayment	MS Department of Environmental Quality Ph. (601) 961-5171
3. Local Governments & Rural Water Systems Improvements Revolving Fund Loan Program	Drinking Water Improvements	Public Entities & Tax Exempt Rural Water Associations	Loans	100% or Match	None; at Board's discretion	1.95% loans for FY-11 1.95% loans for FY-12 20 year repayment	William Moody, PE MS Department of Health Ph. (601) 576-7518
4. Local Governments & Rural Water Systems Emergency Revolving Fund Loan Program	Drinking Water Emergency	Public Entities & Tax Exempt Rural Water Associations	Loans	100% or Match	None; at Board's discretion	2.0 % loans 5 year repayment	William Moody, PE MS Department of Health Ph. (601) 576-7518
5. Community Development Block Grant Program (Public Facilities)	Water, Wastewater, Storm Water	Counties and Municipalities (Except Entitlement Communities)	Grants	Specific To Each Project.	Min. \$100,000 Max. \$600,000, Regular Governments (subject to change)	At least 51% low / moderate income	MS Development Authority Ph. (601) 359-3179
6. Community Development Block Grant Program (Economic Development)	Water, Wastewater, Storm Water	Counties and Municipalities (Except Entitlement Communities)	Grants	Up to 50%	Min. \$100,000 Max. \$1,000,000 (subject to change)	At least 51% of jobs low / moderate income	MS Development Authority Ph. (601) 359-3179
7. Community Development Block Grant Program (Emergency Public Facilities)	Water, Wastewater	Counties and Municipalities	Grants	Up to 100%	Max. \$100,000	At least 51% low / moderate income or urgent need. For correction of threats to health / safety	MS Development Authority Ph. (601) 359-3179

Program	Type of Facilities	Eligible Recipients	Grants/ Loans	Participation %	Min/Max Amount	Terms/ Conditions	Contact
8. Community Development Block Grant Program (Self Help)	Water, Wastewater, Storm Water	Counties and Municipalities	Grants	Specific to each project	No Minimum Max. \$100,000	At least 51% low / moderate income. Must exhibit 30% cost savings over traditional methods	MS Development Authority Ph. (601) 359-3179
9. Small Municipal and Limited Population County Grant Program	Water, Wastewater, Storm Water	Counties (≤ 30k) Municipalities (≤ 10k), Gas Districts	Grants	Up to 100 %	No minimum Max. \$100,000	Improvements must be publicly owned	MS Development Authority Ph. (601) 359-3179
10. Development Infrastructure Program	Water, Wastewater, Storm Water	Counties and Municipalities	Grants	Up to 100%	No minimum Max. \$150,000	Must be used in connection with economic development projects. Must be publicly owned.	MS Development Authority Ph. (601) 359-3179
11. Capital Improvements Revolving Loan Program	Brownfield Cleanup, Water, Wastewater, Industrial Storm Water	Counties and Municipalities	Loans	Up to 100%	Max. per year \$1,000,000	Tax Exempt: 2.0%, 20 yr repayment. Taxable: 3.0%, 20 yr repayment.	MS Development Authority Ph. (601) 359-3179
12. Mississippi Business Investment Act Program	Water, Wastewater, Storm Water	Counties, Municipalities	Loans	Must provide \$3 of private funds for each \$1 of MBIA funds. At least 1 job for every \$15,000 in MBIA \$.	Min. & Max. determined by MDA Director	Determined by MDA Director.	MS Development Authority Ph. (601) 359-3552
13. U.S. Department of Commerce, Economic Development Administration	Plans, Studies, and Public Infrastructure if included in area CEDS.	States, Municipalities, Counties, Indian Tribes and their Dependent Authorities	Grants	Normally 50% to 80%	Min / Max Varied depending on project. Usual range \$100,000 To \$2,000,000	Projects must demonstrate need, job creation and retention. Focused toward economic development.	Economic Development Administration, Atlanta Office Ph. (404) 730-3002, 1-800-319-9049 www.eda.gov
14. Appalachian Regional Commission Program	Water, Wastewater	Counties and Municipalities in Appalachian Region	Grants	80% Distressed Community, 50% Transitional Community	None	Projects must demonstrate need, job creation and retention. Focused toward economic development.	Appalachian Regional Commission, Tupelo Office Ph. (662) 844-1184
15. U.S. Department of Agriculture, Rural Development	Rural Water and Wastewater	Public Entities, Non-Profit Utility District / Associations, & Indian Tribes (Pop. < 10k)	Loans & Grants	100% Loan Up to 75% Grant	None	Interest rate set quarterly by the Agency. Call (601) 965-5460 for current rate. Repayments: 40 yrs. non-profits, 35 yrs. public entities	Water Programs Division Ph. (601) 965-5460

**Recommended Minimum Job Performance
Guidelines for Certified Waterworks Operators in
the
State of Mississippi
and
Regulation Governing the Certification
of Water System Operators**

Prepared by
Mississippi State Department of Health
Division of Water Supply
January 2004

Recommended Minimum Job Performance Guidelines for Certified Waterworks Operators in the State of Mississippi and Regulation Governing the Certification of Water System Operators

Introduction

This booklet presents the minimum and recommended duties and responsibilities for certified waterworks operators in the State of Mississippi. The guidelines contained in this booklet are the *minimum recommended duties and responsibilities* for certified waterworks operators in the State of Mississippi. While these guidelines are comprehensive, they do not and cannot include everything operators should do to operate a water system efficiently. Because individual systems vary so much based on size and facilities, MSDH's Division of Water Supply *recommends these as minimum guidelines*. Operators should use this document as the basis of their job requirements and should consider their individual system when adding duties. We also provide these guidelines to serve as a "blueprint" for Boards of Directors and other officials of water supplies to use when they employ a waterworks operator. By outlining recommended duties and frequency of those duties, both the operator and officials should have a better understanding not only of what is expected, but what is required.

Mississippi State law requires that each community and non-transient non-community public water system be operated by an individual who has been certified by the Mississippi State Department of Health (MSDH). Included for the first time in this booklet is a copy of the State regulation governing the certification of waterworks operators. We have provided the regulation in this booklet to give waterworks operators and Boards of Directors and other public water system officials a reference to the requirements for certification as a waterworks operator. Additionally, the regulation details the requirements for renewal of a waterworks operator certificate.

As always, the Division of Water Supply's goal is to work with public water supplies to ensure clean, safe drinking water for all Mississippians. The continued and strong support of operators and officials is both necessary and appreciated in support of our efforts.

If you have any comments or questions about these Recommended Minimum Guidelines or the waterworks operator regulation, please send them to:

MSDH Division of Water Supply
Monitoring, Training, and Certification Branch
P.O. Box 1700
Jackson, MS 39215-1700

Classification of Public Water Systems And Respective Operator Qualifications for Certification

Class of Water System	Public Water System Classification	Waterworks Operator Qualifications for Certification
Class A	Systems with surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese.	<p>The applicant must have a bachelor's degree in engineering or applied sciences from an accredited college or university, at least one year experience in Class A water system, and pass the required written examination , or</p> <p>He/She must be a graduate of an accredited high school, or equivalent (GED), have at least six years experience in Class A or B water system, of which one year must be in a Class A water system, and pass the required written examination.</p>
Class B	System with two or more Class C treatment facilities of different types, or with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation.	The applicant must have graduated from an accredited high school, or possess an equivalent (GED), have at least three years experience in a Class A, B or C water system, of which one year must be in a Class A or B system, and pass the required written examination.
Class C	System with aeration, pH adjustment, corrosion control or closed pressure type treatment facilities including zeolite softening or iron and/or manganese removal.	The applicant must have graduated from an accredited high school or possess an equivalent (GED), have at least two years experience in a Class A, B, C or D water plant of which one year must be in a Class A, B, or C water plant and pass the required written examination.
Class D	System with no treatment other than chlorination and fluoridation, or direct chemical feed such as polyphosphate.	The applicant must have graduated from an accredited high school or possess an equivalent (GED), have at least one year experience in a Class A, B, C, or D water system. In addition the applicant must pass the required written examination.
Class E	Systems that purchase water only and do not provide additional treatment. This classification also applies to waterworks operators whose only job responsibility is working on the water distribution system of a public water supply.	The applicant must have at least one year experience in a Class A, B, C, D, or E water system and pass the required written examination.

NOTE: Each applicant must demonstrate that he/she has worked for one year under the supervision of a certified waterworks operator who possesses a non-restricted MSDH operator's license at a classification as high or higher than that for which the applicant is applying. In addition each applicant must be recommended by two additional certified waterworks operators other than the supervising operator.

Recommended Minimum Job Performance Guidelines for Certified Waterworks Operators Class “A”

The certified waterworks operator has a critically important role in protecting the public health of Mississippians since he/she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers at all times.

Specifically, the certified waterworks operator is the person responsible for the daily operation of all water treatment facilities, water plants, distribution systems, intake structures, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained at all times. In some cases, the certified operator may have a representative(s) under his/her supervision who also works with the water system. In this case, the authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that these actions are implemented in a timely manner. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Division of Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The recommended duties of the Class “A” certified waterworks operators are outlined below:

1. As a minimum, personally inspect the system and treatment facilities daily, depending on the characteristics of each particular public water system, and perform all necessary and appropriate operational and maintenance activities required of the distribution system and related equipment.
2. Maintain an MSDH approved Log Book documenting all activities completed on the public water system by the certified waterworks operator or his/her representative(s). This Log Book should be maintained on-site at the public water system whenever possible and shall be available for inspection by Division of Water Supply staff.
3. Develop and implement an on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.
4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Division of Water Supply and to retain the results of all water quality analysis required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Division of Water Supply staff.

5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Division of Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Division of Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Division of Water Supply of changes in the Operator's address or telephone number, business or personal.
8. Be available on a 24-hour a day basis to answer all customer complaints, investigate and resolve problems with the operation or water quality of the system.
9. Ensure that all monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH/ Division of Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Division of Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his/her representative.
11. Ensure that all water tanks -- pressure and storage -- are regularly inspected to ensure that they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service as needed.
12. Periodically inspect all pumps (raw water, chemical feed, transfer, and or high service), and equipment to ensure proper operation.
13. Analyze and record daily, monthly, and annual water use and use water quality analysis to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.
15. Develop a written set of standard operating procedures (SOP) for the public water system. This SOP should be developed in sufficient detail and updated routinely to carefully identify all routine activities required to efficiently operate and maintain all components of the public water system. The responsible official of the public water system should review and approve this SOP and it should be maintained in the official records of the water system so that it will be available for use by newly employed Certified Operators of the water system.
16. Maintain an emergency operation plan for the public water system and be prepared to implement this plan when necessary.

17. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the chlorine residual free and total continuously on the discharge of the treatment facilities along with routine checks on the distribution system. Maintain a minimum “free” chlorine residual of 0.5 mg/l at the ends of the water distribution system unless the systems disinfection is treating with chloramines then a minimum of 0.5 mg/l total residual should be maintained.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system which were approved by the Division of Water Supply on the microbiological sampling site plan for the water system.
3. Read and record readings from all master meters on a routine basis.

Recommended Minimum Job Performance Guidelines for Waterworks Operators Class "B"

The certified waterworks operator has a critically important role in protecting the public health of Mississippians since he/she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers at all times.

Specifically, the certified waterworks operator is the person responsible for daily operation and maintenance of water treatment facilities, water wells, distribution systems, storage tanks, control systems, and all other related appurtenances of the public water system. He or she should perform daily duties as required to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained at all times. In some cases, the certified operator may have a representative under his/her supervision who also works with the water system. In this case, the certified operator can supervise the operation without being present on a daily basis.

The certified waterworks operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that these actions are implemented in a timely manner. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Division of Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The recommended duties of a Class "B" certified waterworks operators are outlined below:

1. As a minimum, inspect the system daily and perform all required operational and maintenance duties.
2. Maintain a MSDH approved Log Book documenting all activities completed on the public water system by the certified waterworks operator or his/her authorized representative(s). This Log Book should be maintained on-site at the public water system whenever possible and shall be available for inspection by Division of Water Supply staff.
3. Develop and implement and on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.

Class B - 1

4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Division of Water Supply and to retain the results of all water quality analyses required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Division of Water Supply staff.
5. Serve as the point of contact for the staff of the MSDH Division of Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
6. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Division of Water Supply prior to beginning construction.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator, 24 hours a day, by immediately notifying the MSDH Division of Water Supply when there is a change in the Operator's address or telephone number, either business or personal.
8. Be available 24 hours a day to answer customer complaints and investigate and resolve all problems with the operation or water quality of the system.
9. Ensure that all water quality monitoring programs -- such as lead and copper sampling --
 - a. are organized and carried out according to the requirements of the MSDH Division of Water Supply and the Federal and Mississippi Safe Drinking Water Acts.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Division of Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be kept.
11. Ensure that all water tanks -- pressure and storage -- are inspected periodically to determine if they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service.
12. Periodically inspect all pumps to ensure proper operation.
13. Analyze and record daily, monthly, and annual water use and use results of water quality analyses to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing program based on chemical quality of the water.
 - a. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.

Class B - 2

15. Ensure that the water treatment plant(s) and well site(s) are properly secured to prevent vandalism and accidents.
16. Develop a set of written standard operating procedures (SOP) for the public water system. This SOP should be developed in sufficient detail and routinely updated to carefully identify all routine activities required to efficiently operate and maintain all components of the public water system. The responsible official of the public water system should review and approve this SOP and it should be maintained in the official records of the water system so that it will be available for use by newly employed Certified Operators of the water system.
17. Ensure that an emergency operation plan for the public water system is developed and properly implemented when necessary.
18. Ensure that an adequate inventory is maintained of all supplies, chemicals and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record “free” chlorine residual in the water distribution system daily. A minimum “free” chlorine residual of 0.5 mg/l should be maintained on the extremities of the water distribution system.
2. Collect required bacteriological water samples on the system as required by the Safe Drinking Water Acts. These samples must be collected from locations on the water distribution system as shown on the bacteriological sample site plan approved by the MSDH Division of Water Supply.
3. Read and record the readings from all master meters on a daily basis.
4. Check all wells daily to determine if they are performing as required. The well cycle run time should be checked and the master meter(s) should be used to record the pumping capacity of the well(s). The operator should also schedule annual checks of each well by an outside contractor for drawdown, pump submergence, pumping capacity and general well operation.
5. Check the chlorinator daily to see if it is operating properly. The operator should also check for chlorine leaks and replace chlorine tanks promptly as needed.
6. Inspect the fluoridation feeding equipment daily. The operator is also responsible for monitoring fluoride levels to determine if they are within acceptable ranges, and for providing monthly fluoride samples to MSDH for analysis.
7. Inspect the aerator and associated equipment daily.
8. Regularly inspect the chemical feeder(s) used to raise the pH. The operator should perform tests for pH of the treated water leaving the plant daily and keep a written record of pH results.

Class B - 3

9. Inspect all chemical feeders daily (potassium permanganate, polyphosphate, etc.).
10. Check all filters daily and backwash as needed according to recommended procedures.
11. Run daily tests for iron and manganese (where needed) on the finished water to evaluate filter efficiency and to ensure proper iron and manganese removal.
12. Inspect clarifiers daily (includes the mixing chamber for chemicals).

Class B - 4

Recommended Minimum Job Performance Guidelines for Certified Waterworks Operators Class "C"

The certified waterworks operator has a critically important role in protecting the public health of Mississippians since he/she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers at all times.

Specifically, the certified waterworks operator is the person responsible for the daily operation of all water treatment facilities, water wells, distribution systems, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained at all times. In some cases, the certified operator may have a representative under his/her supervision who also works with the water system. In this case, the certified operator can supervise the activities of his/her representative(s) without being present at the public water system.

The certified waterworks operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that these actions are implemented in a timely manner. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Division of Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The recommended duties and responsibilities of a Class "C" certified waterworks operator are outlined below:

1. As a minimum, inspect the system every other day and perform all needed and appropriate operational and maintenance activities.
2. Maintain a MSDH approved Log Book documenting all activities completed on the public water system by the Certified Operator or his/her authorized representative(s). This Log Book should be maintained on-site at the public water system whenever possible and shall be available for inspection by Division of Water Supply staff.
3. Develop and implement and on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing

Class C - 1

- a. a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.
4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Division of Water Supply and to retain the results of all water quality analyses required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Division of Water Supply staff.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Division of Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Division of Water Supply for all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all other applicable laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Division of Water Supply of changes in the Operator's address or telephone number, business or personal.
8. Be available 24 hours a day to answer customer complaints, investigate and resolve
 - a. problems with the operation or water quality of the water system.
9. Ensure that all water quality monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH Division of Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Division of Water Supply strongly recommends that records be kept of all regularly scheduled/implemented maintenance activities.
11. Ensure that all water tanks -- pressure and storage -- are inspected periodically to determine if they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service.
12. Periodically inspect all pumps to ensure proper operation.
13. Analyze and record daily, monthly, and annual water use and use the results of water quality analyses to help detect leaks or other problems on the system.

Class C - 2

14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of the water and the type of water lines.
15. Ensure that water treatment facilities and water well sites are properly secured to prevent vandalism and accidents.
16. Develop and maintain a set of written standard operating procedures (SOP) for the public water system. This SOP should be developed in sufficient detail and routinely updated to
 - a. carefully identify all routine activities required to efficiently operate and maintain all components of the public water system. The responsible official of the public water system should review and approve this SOP and it should be maintained in the official records of the water system so that it will be available for use by newly employed Certified Waterworks Operators of the public water system.
17. Develop an emergency operation plan and ensure that this plan is effectively implemented when necessary.
18. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record “free” chlorine residual in the water distribution system daily. Maintain a minimum “free” chlorine residual of 0.5 mg/l at the extremities of the water distribution system.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system which were approved by the Division of Water Supply on the sampling site plan for the system.
3. Read and record the readings of all master meters on a routine basis.
4. Check all wells daily to determine if they are performing as required. The well cycle run time should be checked and master meter(s) should be used to record the pumping capacity of the well(s). The operator should also schedule annual checks of each well by an outside contractor for drawdown, pump submergence, pumping capacity and general well operation.
5. Check the chlorinator daily to see if it is operating properly. The operator should also check for chlorine leaks and replace chlorine tanks promptly as needed.
6. Inspect the fluoridation feeding equipment daily. The operator is also responsible for monitoring fluoride levels to determine if they are within acceptable ranges, and to provide monthly fluoride samples to MSDH for analysis.
7. Inspect the aerator and associated equipment daily.

Class C - 3

8. Regularly inspect the chemical feeder(s) used to adjust the pH. The operator should perform, on a daily basis, tests for pH of the treated water leaving the plant and keep a written record of pH results.
9. Inspect all chemical feeders daily (potassium permanganate, polyphosphate, etc.).
10. Check all pressure filters daily and backwash as needed according to recommended procedures.

Class C - 4

**Recommended Minimum Job Performance Guidelines
for Certified Waterworks Operators
Class “D”**

The certified waterworks operator has a critically important role in protecting the public health of Mississippians since he/she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers at all times.

Specifically, the certified waterworks operator is the person responsible for the daily operation of all water treatment facilities, water wells, distribution systems, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained at all times. In some cases, the certified operator may have a representative(s) under his/her supervision who also works with the water system. In this case, the authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that these actions are implemented in a timely manner. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Division of Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The recommended duties of the Class “D” certified waterworks operators are outlined below:

1. As a minimum, personally inspect the system two or three days each week, depending on the characteristics of each particular public water system, and perform all necessary and appropriate operational and maintenance activities.
2. Maintain an MSDH approved Log Book documenting all activities completed on the public water system by the certified waterworks operator or his/her representative(s). This Log Book should be maintained on-site at the public water system whenever possible and shall be available for inspection by Division of Water Supply staff.
3. Develop and implement an on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection

Class D - 1

control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.

4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Division of Water Supply and to retain the results of all water quality analyses required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Division of Water Supply staff.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Division of Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Division of Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Division of Water Supply of changes in the operators address or telephone number, business or personal.
8. Be available on a 24-hour a day basis to answer all customer complaints and investigate and resolve problems with the operation or water quality of the system.
9. Ensure that all monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH/ Division of Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Division of Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his/her representative.
11. Ensure that all water tanks -- pressure and storage -- are regularly inspected to ensure that they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service as needed.
12. Periodically inspect all pumps to ensure proper operation.

Class D - 2

13. Analyze and record daily, monthly, and annual water use and use water quality analyses to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.
15. Ensure that water treatment facilities, well sites, etc. are properly secured to prevent vandalism or accidents.
16. Develop a written set of standard operating procedures (SOP) for the public water system. This SOP should be developed in sufficient detail and updated routinely to carefully identify all routine activities required to efficiently operate and maintain all components of the public water system. The responsible official of the public water system should review and approve this SOP and it should be maintained in the official records of the water system so that it will be available for use by newly employed Certified Operators of the water system.
17. Maintain an emergency operation plan for the public water system and be prepared to implement this plan when necessary.
18. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the “free” chlorine residual in the water distribution system routinely. Maintain a minimum “free” chlorine residual of 0.5 mg/l at the ends of the water distribution system.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system which were approved by the Division of Water Supply on the microbiological sampling site plan for the water system.
3. Read and record readings from all master meters on a routine basis.
4. Check all wells routinely to determine if they are performing as required. The well cycle run time should be checked and the master meter(s) should be used to record the pumping capacity of the well(s). The operator should also schedule annual checks by an outside contractor for factors such as drawdown, pump submergence, pumping capacity and general well operation.
5. Check the chlorinator routinely to see if it is operating properly. The operator should also check for chlorine leaks and replace chlorine tanks promptly as needed.

Class D - 3

6. Inspect the fluoridation feeding equipment **routinely (daily if possible)**. The operator is also responsible for monitoring fluoride levels to determine if they are within acceptable ranges, and to provide monthly fluoride samples to MSDH for analysis.
7. Inspect all chemical feeders routinely (sodium fluoride, polyphosphate, etc.).

Class D - 4

Recommended Minimum Job Performance Guidelines for Certified Waterworks Operators Class “E”

The certified waterworks operator has a critically important role in protecting the public health of Mississippians since he/she is the person designated by Mississippi State law with the responsibility for ensuring that the public water system is routinely providing safe and adequate drinking water to its customers at all times.

Specifically, the certified waterworks operator is the person responsible for the daily operation of all water treatment facilities, water wells, distribution systems, storage tanks, control systems, and other related appurtenances of the public water system. He or she should perform all routine duties as necessary to ensure that the public water system routinely complies with all requirements of the Federal and Mississippi Safe Drinking Water Acts and is properly operated and maintained at all times. In some cases, the certified operator may have a representative(s) under his/her supervision who also works with the water system. In this case, the authorized representative(s) can complete routine operational and maintenance duties and responsibilities as assigned by the certified operator without the certified operator being present.

The certified waterworks operator is responsible for keeping the water system officials informed of all actions required to comply with the Safe Drinking Water Acts and ensuring, as authorized by the water system officials, that these actions are implemented in a timely manner. The certified operator is also responsible for ensuring that all required water quality samples are collected and analyzed according to the requirements of the Mississippi State Department of Health's Division of Water Supply. Required samples include the monthly bacteriological samples, lead samples, copper samples, nitrate samples, radiological samples, and others as required by the Federal Safe Drinking Water Act.

The recommended duties of the Class “E” certified waterworks operators are outlined below:

1. As a minimum, personally inspect the system a minimum of one (1) day each week, depending on the characteristics of each particular public water system, and perform all necessary and appropriate operational and maintenance activities required on the distribution system.
2. Maintain an MSDH approved Log Book documenting all activities completed on the public water system by the certified waterworks operator or his/her representative(s). This Log Book should be maintained on-site at the public water system whenever possible and shall be available for inspection by Division of Water Supply staff.
3. Develop and implement an on-going cross connection control program by: (1) identifying and tracking all existing cross connections on the water system, (2) ensuring that each existing cross connection is isolated from the water system by the correct type of cross connection control assembly, (3) evaluating all new connections to the water system to ensure that cross connection control devices are installed where needed, and (4) developing a written program to track each cross connection control device on the water system to ensure that each device is tested each year by an MSDH approved & licensed backflow device tester.

Class E - 1

4. Ensure that the public water system develops and maintains an organized record keeping system to retain all correspondence and reports received from MSDH Division of Water Supply and to retain the results of all water quality analysis required by the Safe Drinking Water Acts. These records should be maintained on-site whenever possible and must be available for review by Division of Water Supply staff.
5. Ensure that all extensions to the water distribution system that are designed to serve 2 or more customers have been approved by the MSDH Division of Water Supply prior to beginning construction.
6. Serve as the point of contact for the staff of the MSDH Division of Water Supply in all matters related to compliance with the Federal and Mississippi Safe Drinking Water Acts and all related laws and regulations.
7. Ensure that the MSDH is able to contact the Certified Waterworks Operator 24 hours a day by immediately notifying the Division of Water Supply of changes in the Operator's address or telephone number, business or personal.
8. Be available on a 24-hour a day basis to answer all customer complaints and investigate and resolve problems with the operation or water quality of the system.
9. Ensure that all monitoring programs -- such as lead and copper sampling -- are organized and carried out according to the requirements of the MSDH/ Division of Water Supply and the Federal Safe Drinking Water Act.
10. Ensure that all distribution line valves are located and operated on a regular schedule to keep them in proper working order. The Division of Water Supply strongly recommends that records of all regularly scheduled/completed maintenance be maintained by the certified operator or his/her representative.
11. Ensure that all water tanks -- pressure and storage -- are regularly inspected to ensure that they are operating properly; the water level in the tank should rise and fall to keep water in the tank circulating. The operator should visually inspect the tank on a routine basis and coordinate proper maintenance service as needed.
12. Periodically inspect all pumps (if applicable) to ensure proper operation.
13. Analyze and record daily, monthly, and annual water use and use water quality analyses to help detect leaks or other problems on the system.
14. Develop and implement a routine flushing schedule program based on chemical quality of the water. All dead end water lines should be flushed on a routine schedule; the frequency of flushing depends on the chemical quality of water and the type of water lines.

Class E - 2

15. Develop a written set of standard operating procedures (SOP) for the public water system. This SOP should be developed in sufficient detail and updated routinely to carefully identify all routine activities required to efficiently operate and maintain all components of the public water system. The responsible official of the public water system should review and approve this SOP and it should be maintained in the official records of the water system so that it will be available for use by newly employed Certified Operators of the water system.
16. Maintain an emergency operation plan for the public water system and be prepared to implement this plan when necessary.
17. Ensure that an adequate inventory is maintained of all supplies, chemicals, and equipment required to properly operate the public water system.

The certified operator or someone under his or her direct supervision should:

1. Test and record the “free” chlorine residual in the water distribution system routinely. Maintain a minimum “free” chlorine residual of 0.5 mg/l at the ends of the water distribution system.
2. Collect bacteriological water samples on the system as required by the Safe Drinking Water Act. These samples must be collected from locations on the water distribution system which were approved by the Division of Water Supply on the microbiological sampling site plan for the water system.
3. Read and record readings from all master meters on a routine basis.

Chapter 2. REGULATION GOVERNING THE CERTIFICATION OF MUNICIPAL AND DOMESTIC WATER SYSTEM OPERATORS

Subchapter 1. General Provisions

Rule 2.1.1. **Legal Authority.** This regulation has been promulgated under the authority of and pursuant to the Municipal and Domestic Water and Wastewater System Operator's Certification Act of 1986, Sections 21-27-201 through 21-27-221, Mississippi Code of 1972. Annotated.

SOURCE: Miss. Code Ann. §§21-27-207 and 41-26-6

Rule 2.1.2. Definitions

1. **Association** shall mean the Mississippi Water and Pollution Control Operators Association, Inc.
2. **Available** shall mean a certified operator employed by the water system holding an operator's certificate equivalent or higher than the class of the public water system, whose principle residence is no more than fifty (50) miles from the water system. The water system must be able to contact this certified operator at all times by telephone, pager or other reliable mode of communication acceptable to the Mississippi Department of Health to address system needs and problems as they occur.
3. **Board** shall mean the Mississippi State Board of Health.
4. **Bureau** shall mean the Bureau of Public Water Supply of the Mississippi Department of Health.
5. **Community Water System** shall mean any water system serving piped water for human consumption to fifteen (15) or more individual service connections used year-round by consumers or regularly serving twenty-five (25) or more individual consumers year-round, including, but not limited to, any collection, pretreatment, treatment, storage and/or distribution facilities or equipment used primarily as part of, or in connection with such system, regardless of whether or not such components are under the ownership or control of the operator of such system.
6. **Department** shall mean the Mississippi Department of Health.
7. **Director** shall mean the director of the Mississippi Department of Health or his designated representative.
8. **Distribution System** shall mean all water mains, repumping facilities, and appurtenances past treatment.

9. **Non-transient non-community water system** shall mean a public water system that is not a community water system and that regularly serves at least 25 of the same persons.
10. **Operator** shall mean the certified waterworks operator who directly supervises and is personally responsible for the daily operation and maintenance of a community or non-transient non-community public water system.
11. **Part-time operator** shall mean any certified waterworks operator who is employed as the certified waterworks operator for a public water system and is not considered a full-time employee of the public water system. This definition shall include certified waterworks operators who are serving as the certified waterworks operator for public water systems through privately owned operating companies.
12. **Person** shall mean the state or other agency or institution thereof, any municipality, political subdivision, public or private corporation, individual, partnership, association or other entity, and includes any officer or governing or managing body of any municipality, political subdivision, or public or private corporation, or the United States or any officer or employee thereof.
13. **Responsible Charge** shall mean a certified operator, holding a Department waterworks operator's license at a class equivalent to or higher than the class of the water system, who is officially designated by the owner or responsible official of the water system as the operator responsible for making all decisions regarding the daily operational activities of the public water system including all components of the water system such as treatment plants, water wells, distribution systems, etc. Under special circumstances, the Department may authorize a water system to have more than one operator in responsible charge.

SOURCE: Miss. Code Ann. §21-27-203

- Rule 2.1.3. **Certificates.** Effective July 1, 1987, all municipal and domestic community water systems must be operated by persons who are certified by the Mississippi Department of Health as qualified to operate such facilities. Effective July 1, 1998, all non-transient non-community public water systems must be operated by persons who are certified by the Department to operate such facilities.
1. Certificates of competency will be issued by the Bureau only after the applicant has passed the appropriate examination and has met the minimum requirements as specified in ~~Rule 2.2.7~~ Subchapter 3.
 2. Certificates issued in accordance with section 21-27-213 (Grandfather Clause) of the Municipal and Domestic Water and Wastewater System Operator's Certification Act of 1986, shall be valid only for the particular public water system operated by the applicant at the time the certificate was issued, and then only so long as the system remains in the same or lower classification as at the time the application was filed.

3. Certificates shall be valid for three (3) years from the date of issuance, unless suspended or revoked for cause.
4. In the event of temporary loss of an operator, notice shall be immediately given to the Bureau and the continued operation of such system, without a certified operator, may proceed on an interim basis for a period not to exceed one hundred eighty (180) days, except for good cause shown upon petition to the Bureau.
5. Certificates may be issued, without examination, in a comparable classification to an operator who holds a certificate in any state, territory, or possession of the United States or any country that has entered into a reciprocity agreement with the Bureau.
6. Any person allowed to actually make physical changes on a public water system that impact water quality or quantity must hold a waterworks operator's license issued by the Bureau at a class equivalent to or higher than the class of the public water system.

SOURCE: Miss. Code Ann. §§21-27-205 and 21-27-211

Subchapter 2. Classification of Public Water Systems & Operator in Responsible Charge

Rule 2.2.1. **Classes of Water Systems.** Water systems shall be classified in accordance with criteria outlined below. Special systems which do not fall within these guidelines shall be considered as individual cases and be classified by the Bureau. All public water systems shall be under the direct supervision of a Department licensed waterworks operator who is designated by the owner or responsible official of the system as the operator in responsible charge of the water system. In those situations where a public water system contracts with a private operating company to operate the public water system, the responsible official of the public water system may authorize the private company to designate an operator employed by the company as the operator in responsible charge of the water system. In either case, the water system shall identify, by means of the Public Water System Annual Report submitted each year to the Department, the certified operator in responsible charge of the public water system.

1. **Class E.** Water systems that purchase water only and do not provide additional treatment. This classification shall also apply to waterworks operators whose only job responsibility is the operation and maintenance of distribution system(s). The certified operator in responsible charge shall be available 24 hours a day to address system needs and problems as they occur.
2. **Class D.** Water systems with no treatment other than chlorination and/or fluoridation or direct chemical feed such as polyphosphate. The certified operator in responsible charge shall be available 24 hours per day to address system needs and problems as they occur.

3. **Class C.** Water systems with aeration, pH adjustment, corrosion control or closed pressure filtration treatment facilities including zeolite softening or iron removal. The certified operator in responsible charge shall be available 24 hours per day to address system needs and problems as they occur.
4. **Class B.** Water systems with two (2) or more Class C treatment facilities of different types, or with iron or manganese removal facilities breaking pressure or requiring flocculation and/or sedimentation. The certified operator in responsible charge shall be available 24 hours per day to address system needs and problems as they occur.
5. **Class A.** Systems with surface water treatment, lime softening, or coagulation and filtration for the removal of constituents other than iron or manganese. A licensed class A operator shall be onsite whenever the treatment plant for a Class A public water system treating surface water is in operation. The certified operator in responsible charge shall be available 24 hours per day to address system needs and problems as they occur.

SOURCE: Miss. Code Ann. §21-27-205

Subchapter 3. Operator Qualifications. Qualification for Each Class Operator:

Rule 2.3.1. **Class A.** The applicant must have at least a bachelor’s degree in engineering or applied sciences from an accredited college or university, at least one years-of experience in a Class A water plant, and pass the written examination required by the Bureau, or the applicant must be a graduate of an accredited high school or possess an equivalent (GED), have at least six (6) years experience in a Class A or B water plant, of which at least one year must be in a Class A plant, and pass the written examination required by the Bureau.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.3.2. **Class B.** The applicant must have graduated from an accredited high school or possess an equivalent (GED), have at least three (3) years of experience in a Class A, B, or C water plant, of which one year must be in a Class A or B plant, and pass the written examination required by the Bureau.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.3.3. **Class C.** The applicant must have graduated from an accredited high school or possess an equivalent (GED), have at least two (2) years of experience in a Class A, B, C, or D water plant of which one year must be in a Class A, B, or C water plant, and pass the written examination required by the Bureau

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.3.4. **Class D.** The applicant must have graduated from an accredited high school or possess an equivalent (GED), and the applicant must have at least one year of

experience in the same class facility as being applied for or a higher level. In addition, the applicant must pass the written examination required by the Bureau.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.3.5. **Class E.** The applicant must have graduated from an accredited high school, or possess an equivalent (GED) and the applicant must have at least one year of experience in the same class facility as being applied for or a higher level. In addition, the applicant must pass the written examination required by the Bureau.

SOURCE: Miss. Code Ann. §21-27-205

Subchapter 4. General Qualifications for all Certified Waterworks Operators

Rule 2.4.1. One year of the required experience must be earned under the direct supervision of a certified waterworks operator who holds a valid non-restricted certificate issued by the Department at a class equivalent to or higher than that for which certification is being requested. The year of supervision must be obtained in a public water system of a class equivalent to or higher than the class certificate being requested. The supervising operator must sign a certification statement verifying the successful completion of the required period of supervision. In addition, two Department certified waterworks operators, other than the operator who provided this supervision, must sign a certification statement recommending the applicant for certification. Under special circumstances, the Department may waive the requirements of this section based upon written evidence of good cause.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.4.2. To be eligible to serve as the certified operator for a community or non-transient non-community public water system, an operator's principal residence must be no more than fifty (50) miles from the system. Under special circumstances, an operator may apply to the Bureau in writing for a waiver of the 50 mile requirement.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.4.3. An individual whose operator's license has been expired for 24 months or less shall be eligible to receive a new waterworks operator's license at a level no higher than the license previously issued by the Bureau if he/she successfully passes the written examination required by the Bureau. To be eligible to retake the examination, the operator must comply with the provisions of Rule ~~4-1-5~~ 2.6.1 (5) of this regulation. The provisions of Rule ~~2-3-1~~ 2.4.1 of this regulation shall be waived for applications received under this section. Operators whose license has been expired more than 24 months must successfully pass the written examination required by the Bureau and comply fully with the provisions of section ~~2-3-1~~ 2.4.1.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.4.4. Operators who have received special vocational training, such as special schools, short courses, correspondence courses, etc., may be given credit for some portion of the deficiency in their experience. Special vocational training programs shall be approved in writing and in advance of the training. Approval shall be at the discretion of the Bureau. After a specific program of special vocational training has been approved, the Bureau shall award credit for experience using the following criteria:

1. Eight (8) weeks of classroom instruction will be equivalent to one year experience.
2. One week of on-the-job training will be equivalent to one week experience.
3. Special vocational training programs that have combinations of classroom instruction and on-the-job training will be evaluated by first separating classroom instruction from on-the-job training. Credit will be for experience on the basis of the two previous criteria. The total credit awarded for the program will be the sum of the two parts.
4. Each year of college successfully completed in engineering, biological sciences, mathematics, chemistry, or physics will be considered the equivalent of two (2) years experience.
5. At least one year of water system experience is required in all classes. This one year of experience cannot be substituted by special vocational training programs or college education.

SOURCE: Miss. Code Ann. §21-27-205

Subchapter 5. Application and Fees

Rule 2.5.1. Filing Application

1. Applicants for licensure as a certified waterworks operator shall file an application with the Bureau on a form provided by the Bureau.
2. The Bureau will review the application and supporting documents, determine the eligibility of the applicant, and issue a certificate when the applicant meets the minimum requirements of the class requested.

SOURCE: Miss. Code Ann. §21-27-205

Rule 2.5.2. Fees

1. A fee of fifty dollars (\$50.00) shall be charged for initial certification or reactivation of an expired certificate in any classification and must be paid to the Bureau prior to actual issuance of the certificate.

2. A fee of thirty dollars (\$30.00) shall be charged for the renewal of an active certificate and must be paid to the Bureau prior to actual issuance of the renewal certificate.
3. All application fees must be received within *fifteen (15)* days of being invoiced by the Department. Application fees received after *fifteen (15)* days will be returned to the applicant and the applicant must reapply to the Department for certification or renewal.

SOURCE: Miss. Code Ann. §21-27-207

Subchapter 6. Examinations

Rule 2.6.1. Written Examinations

1. The Bureau shall prepare written examinations to be used in determining knowledge, ability, and judgment of operators.
2. Examinations shall be held at places and times set by the Bureau.
3. An individual who passes an examination must be certified within three (3) years following the date the examination was taken. Otherwise, the individual will be required to pass another written examination in order to be certified.
4. Examination papers will not be returned to the individuals.
5. To be eligible to take a written examination, an individual must satisfactorily demonstrate to the Bureau that he/she has attended a Bureau sponsored waterworks operators' short course within the previous 12 months.

SOURCE: Miss. Code Ann. §21-27-215

Rule 2.6.2. Renewal of Waterworks Operator Certificates

1. Certificates may be renewed without examination. An application for renewal of a waterworks operator's certificate of competency must be physically received by the Bureau within thirty (30) days following the date the certificate expires. This application must be accompanied by proof of completion of the continuing education requirements found in Rule ~~2-8-2~~ 2.6.2 (2). Upon approval of the renewal application, the applicant will be invoiced for the renewal fee of \$30.00. The Bureau must receive this renewal fee prior to issuing the new waterworks operator's certificate of competency. Certified operators who file renewal applications more than thirty (30) days after expiration of their certificate will be denied renewal of their certificate and must pass the appropriate written examination and apply for a new certificate.
2. Operators who have been continuously licensed by the Bureau less than nine (9) years must complete at least forty-eight (48) hours of related continuing education

(CEUs) per three (3) year certificate renewal period with at least 12 hours of these CEUs in Bureau approved “Regulation and Compliance” training programs. Operators who have been continuously licensed by the Bureau for nine (9) years or more are required to obtain 24 hours of CEUs in the three year certificate renewal period with at least twelve (12) hours of these CEUs in Bureau approved “Regulation and Compliance” training programs. All continuing education requirements must be met prior to the expiration date of the certificate. These CEUs must be appropriate for the classification held by the operator and may only be obtained by attending training sessions approved by the Bureau. All training, correspondence courses, etc., shall be approved in writing and in advance of the training. Approval shall be strictly at the discretion of the Bureau. Training will be evaluated by the Bureau on an hour for hour basis for continuing education credit.

SOURCE: Miss. Code Ann. §21-27-207

Rule 2.6.3. Mississippi Department of Environmental Quality approved wastewater training programs will be awarded CEU credit by the Bureau at the rate of (1) water CEU hour for every 2 wastewater CEU hours earned.

SOURCE: Miss. Code Ann. §21-27-207

Rule 2.6.4. Each certified operator is responsible for maintaining all necessary records to document the completion of the required hours of continuing education. Original documentation of the completion of the required continuing education must be submitted with the application for renewal of the operator’s certificate of competency. Copies of CEU certificates are not acceptable.

Rule 2.6.5. Any waterworks operator who is issued a restricted (grandfather) license by the Department after May 2000, in order to qualify for renewal of this license, shall attend a Department sponsored short course during the 3 year restricted (grandfather) license period. This short course must be at the level of classification of the water system or higher.

SOURCE: Miss. Code Ann. §21-27-207

Subchapter 7. Certified Waterworks Operator Job Performance, Record Keeping and Reporting Requirements

Rule 2.7.1. Annual Reporting Requirements

1. Each certified waterworks operator and responsible official shall sign the certification statement on the Public Water System Annual Report for each public water system for which he/she is the designated certified waterworks operator in responsible charge of the public water system as required by Mississippi State Law. If a public water system fails to provide a completed Public Water System Annual Report to the Bureau within 45 days of this Report being mailed to the water system by the Bureau, the Department shall officially declare the public

water system to be without a certified waterworks operator and the water system shall be in violation of this regulation and Mississippi State law.

2. Each certified waterworks operator, or his/her representative(s), shall maintain an approved Public Water System Operations Log Book documenting all activities completed on the public water system where he serves as the official certified waterworks operator. This log book must be available for inspection by Bureau staff. The Public Water System Operations Log Book is the property of the public water system and must remain as part of the official records of the Public Water System.

SOURCE: Miss. Code Ann. §21-27-207

Rule 2.7.2. **Job Performance:** Each certified waterworks operator shall abide by the current edition of the Minimum Job Performance Guidelines booklet published by the Bureau of Public Water Supply. This booklet presents the minimum duties and responsibilities for Department certified waterworks operators in the State of Mississippi.

SOURCE: Miss. Code Ann. §21-27-207

Rule 2.7.3. **Presence of Certified Waterworks Operator during Sanitary Surveys and Inspections:** The certified waterworks operator for a public water system shall be present for the conduct of sanitary surveys and inspections by Bureau staff when requested by Bureau staff and when provided at least 24 hours notice of the survey or inspection. Under special circumstances, this requirement may be waived provided the certified operator arranges for someone to represent him/her during the survey or inspection.

SOURCE: Miss. Code Ann. §21-27-207

Rule 2.7.4. **Waterworks Operator Licensure Waiver:** The Director may waive any part or parts of this regulation if the Director determines that such waiver will not potentially jeopardize public health.

SOURCE: Miss. Code Ann. §21-27-207

Subchapter 8. Suspension and Revocation of Certificates. Criteria for Suspension or Revocation of a Waterworks Operator's Certificate

Rule 2.8.1. A waterworks operator's certificate of competency may be revoked or suspended by the Department for just cause. Causes include, but are not limited to, the following:

1. Fraud or deception;
2. Misfeasance, malfeasance or nonfeasance;

3. Violation of any provision of the “Mississippi Municipal and Domestic Water and Wastewater System Operators’ Certification Law of 1986,” or any rule or regulation of the Department promulgated there under;
4. Violation of any provision of the Federal Safe Drinking Water Act or the Mississippi Safe Drinking Water Act; or any rule or regulation, federal or state, promulgated under these laws;
5. Failure to file any official reports required by the Department;
6. Failure to maintain all official records required by the Department;
7. Failure to respond to any official correspondence from the Department;
8. Failure to obey a lawful order of the Director or any duly appointed Administrative Hearing Officer of the Department;
9. Failure to exercise reasonable care or judgment in the operation of a public water supply or in the performance of official duties;
10. Failure to comply with the terms of a suspension of certificate issued by the Department.

SOURCE: Miss. Code Ann. §21-27-219

Rule 2.8.2. No certificate of competency will be suspended or revoked without notice to the waterworks operator and an opportunity for a hearing. Hearings shall be held in conformity with Sections 21-27-219 and 21-27-221 Mississippi Code of 1972 Annotated.

SOURCE: Miss. Code Ann. §§21-27-219 and 21-27-221

Rule 2.8.3. Notwithstanding the requirement for a hearing, the Department may, if it determines that public health is threatened, issue any such orders as are deemed necessary to protect the public health, including, but not limited to, orders to individual(s) to cease all actions as a certified waterworks operator in the State of Mississippi.

SOURCE: Miss. Code Ann. §§21-27-217 and 21-27-219

Subchapter 9. Enforcement and Appeals Procedures

Rule 2.9.1. **Procedures:** Enforcement and appeals shall be in accordance with the Municipal and Domestic Water and Wastewater System Operator’s Certification Act of 1986.

SOURCE: Miss. Code Ann. §§21-27-217 through 21-27-221

Section XI: Standard Operating Procedures

The following policies are provided by Community Resource Group, Inc. These templates can be used when developing policies for your individual water system. All names of communities are fictitious. Any similarities between names used in these examples and actual communities are coincidental. For a complete set of polices and procedures for small water and waste water systems or for assistance with developing these policies, please contact Community Resource Group – Rural Community Assistance Program’s Mississippi State Office at (479) 445-3729.

Standard Operating Procedures

Comprehensive Customer Service Policy

Municipal Water Utility Policy

Water Utility Long Range Plan



RURAL COMMUNITY
ASSISTANCE PROGRAM
COMMUNITY RESOURCE GROUP, INC

Water Association Water System Standard Operating Procedures

I. General

The information contained within this document shall serve as a guideline for the employees, contractors and / or board officers in carrying out their duties with the association's potable water supply system. These standard operating procedures shall be adhered to and anyone having knowledge of non-compliance must inform the board's point of contact immediately. Anyone who willingly ignores this policy or repeatedly fails to follow it may be subject to disciplinary actions or termination. The purpose of these operating procedures are to ensure that all responsible entities carry out their duties cooperatively and diligently to ensure that public health and the association's investment in its water system are protected. The Board of Directors of the _____ Water Association reserves the right to amend these procedures in any way provided that all applicable employees and contractors are notified of any proposed changes. All applicable employees and contractors will be provided with copies of any amendments.

II. Definitions

Secretary: *The person who is responsible for all accounts receivable and accounts payable operations including billing, collecting, and posting customer payments as well as posting meter readings and generating necessary accounts receivable reports. The Secretary is also responsible for disbursing funds to approved claims as well as maintaining an active filing system of all correspondence, accounts receivable, and accounts payable information.*

Contract Operator: *The person who is responsible to ensure that all daily operation and maintenance duties performed on the water system are in compliance with the SDWA as well as any state regulations pertaining to potable water systems. The _____ Water Association is a Class "____" system and is required to employ or contract with a person having a Class "____" or higher MSDH certification.*

Meter Reader: *The person responsible for the reading of all meters between the _____ and the _____ of each month. The Meter Reader shall also cut grass at all well sites and tanks as directed by the schedule designated by the Board.*

Contract Repair Service: *The Contract Repair Service shall work under the guidance and direction of the Secretary and the Contract Operator to ensure proper maintenance on the water system.*

Board Point of Contact: _____ shall serve as the point of contact for the _____ Water Association's water system. Any employee, contractor, agency or other entities wishing to address the board regarding the water system must first address the Board Point of Contact (POC) or the Delegated Alternate Point of Contact. The Delegated Alternate Point of Contact is _____.

III. Preventative Maintenance Procedures

A. Wells, pumps, and related equipment

1. The Contract Operator shall personally inspect the wells, pumps, and equipment and record all findings including operating pressures, run-time meter readings, and flow meter readings on the Daily Well Logs at least two (2) days each week.
2. The Contract Operator shall initialize all Daily Well Log entries as well as record the date and time of PM inspection in his MSDH issued Operators Log Book.
3. The Contract Operator shall use the Daily Well Logs to compile a Monthly Production Report.
4. The Contract Operator shall recommend to the Board POC when a necessary pumping test is needed.
5. The Meter Reader shall perform grass cutting services twice each month at the well site from Spring until Fall of each year.

B. Tanks

1. The Contract Operator shall periodically make a visual inspection of the exterior of any ground storage tanks, hydropneumatic tanks, and elevated tanks for signs of paint oxidation, rust, or leaks.
2. The Contract Operator shall report to the Board POC when a necessary professional tank inspection is needed.

C. Fire Hydrants

1. The Contract Operator shall periodically exercise and lubricate all fire hydrants to ensure that they are functioning.
2. The Contract Operator shall maintain a Fire Hydrant Drawdown and Testing Log to document each hydrant's condition and inspection.
3. The Contract Operator shall use the Fire Hydrant Drawdown and Testing Log to compile the water account ability section of the Monthly O-M Report.

D. Water Mains

1. The Contract Operator shall locate and mark the necessary water mains within 48 hours of notice of a request by a citizen or contractor to excavate within 10 feet of a water main or service line. The Contract Operator shall also document any request for line locates as well as any leaks or breaks caused by excavators and present this information to the Board POC.
2. The Secretary shall coordinate a leak detection survey if unaccountable water lossage exceeds 30% of the total water produced or if it is recorded that there is a 10% increase in unaccountable water during a one month period.
3. The Secretary shall periodically perform visual leak detections to ensure that unaccountable water lossage is located and repairs are scheduled.

E. Meters and Service Connections

1. The Meter Reader shall document each month while reading meters any indications of leaks and non-functioning meters.
2. The Secretary shall periodically generate a computer report detailing possible non-functioning meters.
3. At the direction of the Secretary, the Contract Repair Service shall perform on-site meter validity inspections and necessary meter change-outs.

IV. Scheduled Maintenance Repairs

A. Leak Repairs

1. The Secretary shall contact the Contract Repair Service for all scheduled leak repairs and obtain a preliminary estimation of the costs before proceeding with the repairs.
2. The Contract Repair Service shall notify the Secretary if the water will have to be shut-off in order to complete the repairs. In turn, the Secretary shall contact the Contract Operator to inform him of the temporary water outage.
3. If the main lines are cut for splicing or tie-ins, the Contract Operator shall personally ensure that the proper amount of HTH Chlorine is poured into the main to ensure adequate disinfection. The Contract Repair Service should flush the nearest fire hydrant down line and take a free chlorine residual test before leaving the site.
4. If the Contract Operator determines that a voluntary boil water notice must be issued, Secretary shall be contacted first before notifying customers that will be effected. The Contract Operator will determine which method of notification is appropriate and will contact the MSDH Regional Engineer for guidance if necessary.
5. After bacteriological test results are reported clear by MSDH, the Contract Operator shall notify the Secretary to lift the notice.

B. Equipment Repairs and Replacement

1. The Contract Operator shall notify and secure the approval of the Secretary before proceeding with scheduled repairs on equipment including but not limited to electrical controls, well pumps & motors, and chlorine disinfection equipment.
2. The Secretary shall either approve the scheduled equipment repairs or replacement or postpone them until an official decision can be made by the board.

C. Meter Change-Outs

1. The Secretary shall schedule meter change-outs periodically with the Contract Repair Service. The Contract Repair Service shall provide documentation of the results of the on-site meter validity inspections to the Secretary.

V. Emergency Repairs and Water Outages

A. Emergency Repairs – Repairs that if not completed immediately will cause detrimental damage to the water system, cause the entire system to lose pressure, or could result in a threat to the safety and health of the town’s citizens, employees, or contractors.

1. The Secretary shall also notify the Contract Repair Service as soon as possible regarding the extent and location of the emergency repair. The Secretary shall also contact the Contract Operator if the area affected has lost pressure and if so, the Contract Operator shall proceed with issuing a boil water notice.
2. If the main lines are cut for splicing or tie-ins, the Contract Operator shall personally ensure that the proper amount of HTH Chlorine is poured into the main to ensure adequate disinfection.
3. The Contract Repair Service shall flush the nearest fire hydrant or flush plug down line and take a free chlorine residual test before leaving the site.
4. If a Boil Water Notice is issued and after bacteriological test results are reported clear by MSDH, the Contract Operator shall notify the Board POC so that customers can be notified that the water is safe.

B. Water Outages – A substantial loss of pressure on the water system due to a mechanical or electrical failure or a water main break. Immediate issuance of Boil Water Notices are required for all Water Outages.

1. The Secretary shall notify the Contract Operator immediately and give a full report of the extent of the water outage.
2. The Contract Operator shall contact MSDH immediately for guidance in preparing the Boil Water Notice.
3. The Contract Operator shall be available to answer any questions that the public may have regarding the water outage, quality of water, and the necessity of the boil water notice.
4. Once pressure is restored, the Contract Operator shall gather the necessary bacteriological samples and submit them immediately to the _____ County Health Department Office.
5. Once MSDH has determined that the samples are clear and notifies the Contract Operator, the operator must notify the Board POC and the affected customers that the boil water notice is lifted and the water is safe to drink.

VI. Record Keeping

A. Maintenance Records

1. The Contract Operator shall:
 - A. Be responsible for maintaining a MSDH approved Operator Log Book detailing his activities at Harland Creek Community. MSDH requires that the Contract Manager keep these records for at least five years.
 - B. Prepare and maintain copies of the Monthly and Annual Production Reports as well as supply a copy to the Secretary. The Production Reports must be maintained for five years.
 - C. Prepare the water accountability section of the Monthly O-M Report and maintain a copy of each report for at least five years.

- D. Prepare the Annual O-M Report and supply a copy to the Secretary. The Annual O-M Report shall be maintained for at least ten years.
- E. Prepare the MSDH Sampling Log and maintain for at least ten years.
- 2. The Secretary shall:
 - A. Prepare the MSDH Annual Report, and maintain in a file for three years.
 - B. Maintain copies of all reports generated by the Contract Operator and retain for the specified time periods listed above.
- B. MSDH Test Results and Correspondence
 - 1. The Contract Operator shall be responsible for maintaining copies of all MSDH correspondence, test results, sanitary surveys, and annual reports.
 - 2. The Secretary shall be responsible for maintaining originals of all MSDH correspondence, test results, sanitary surveys, and annual reports.
- C. Pumping Test, Surveys and Engineering Plans
 - 1. The Secretary shall maintain all well pumping test reports, camera surveys, professional leak detection surveys, and as built engineering plans.
- D. Bookkeeping Records
 - 1. The Secretary shall maintain all water customer receipt books for at least three years.
 - 2. The Secretary shall maintain all cut-off reports, aged account reports and billing registers for at least two years.
 - 3. The Secretary shall maintain all month ending detailed transaction reports for at least three years.
 - 4. The Secretary shall maintain all daily payment transaction reports for at least two years.
 - 5. The Secretary shall maintain all IRS 940, 941, and 1040 prepared by the accountant and other reports and official correspondence for at least seven years.
 - 6. The Secretary shall prepare monthly bank reconciliation reports and check disbursement journals to be maintained for at least seven years.
- E. Customer Files and Records
 - 1. The Secretary shall maintain files of all customers and place all users agreements, MSDH notices of intent, hardship payment plans, payment extension agreements, and any correspondence within these files. The Customer Files shall not be purged or archived unless directed by the Board of Directors.
- F. Correspondence Files
 - 1. The Secretary shall maintain separate files for all mortgage holders and regulatory agencies and shall file all correspondence received as well as copies of all correspondence mailed to these agencies. These official correspondence files shall not be purged or archived unless directed by the Board of Directors.
- G. Personnel Records
 - 1. The Secretary shall maintain the individual personnel files for the Secretary, the Contract Operator, and the Contract Meter Reader. Included in these files will be copies of the actual contracts, MSDH Annual Operating Agreements, and certification of insurance.
- H. Insurance Policies and Records
 - 1. The Secretary shall maintain all commercial insurance policy files and correspondence relating to cover age of the water system for at least seven years.

VII. Testing and Monitoring

A. Chlorine Residual Tests

1. The Contract Operator shall check twice each week the total and free chlorine residuals randomly at sites approved by MSDH.
 - A. The Contract Operator shall document the chlorine residual test results on the Chlorine Testing and Hydrant Flushing Log.
 1. If the free chlorine residual is tested as 0.5 mg/l or less, the Contract Operator shall take the necessary steps including adjusting the chlorine feed rate and flushing to increase the free chlorine residual.

B. Bacteriological Tests

1. The Contract Operator shall collect the monthly bacteriological samples at MSDH approved sampling sites and deliver them to the _____ County Health Department on or before the deadline each month.
 - A. The Contract Operator shall make copies of the test results to be maintained in his files and notify the Secretary immediately upon receipt of the results. Board Secretary shall maintain a file of the original bacteriological tests results. The Contract Operator shall maintain a file of copies of the tests results.
 - B. If the test results indicate a presence of coliform bacteria, indicate confluent growth, or are in any way not satisfactory, the Contract Operator shall contact the Secretary, the MSDH Regional Engineer and take the immediate necessary actions prescribed by MSDH including public notification and resample procedures.
2. The Contract Operator shall collect bacteriological samples on the resample card should he suspect contamination at any time. The Contract Operator shall contact the MSDH regional engineer immediately and submit the sample(s) to the _____ County Health Department. Voluntary public notification and boil water notices will be issued to those effected.

C. Other Required Testing, Reporting, and Monitoring

1. All other required testing, reporting and monitoring specified by the SDWA and / or directed by MSDH shall be completed by the Contract Operator following the MSDH prescribed guidelines and by the date that such testing, reporting, or monitoring is specified.
 - A. Upon receipt of any official correspondence from MSDH or EPA, the Contract Operator shall contact the Secretary immediately. The Secretary shall maintain files of all original correspondence and tests results. The Contract Operator shall maintain alternate files of copies of such correspondence and test results.
 - B. If the _____ Water Association has been found to be in noncompliance with the SDWA due to monitoring violations or exceedence of MCL standards, the Contract Operator shall contact the Secretary and the MSDH Regional Engineer immediately.

VIII. Accounts Receivable and Accounts Payable Operations

A. Accounts Receivable Operations

The Secretary shall refer to and strictly adhere to compliance with _____ W.A.'s Bylaws and Customer Service Policy concerning Accounts Receivable Operations.

B. Accounts Payable Operations

1. The Secretary shall compile all vendor claims including invoices and statements each month and prepare a claims docket to be presented to the Board of Directors at each monthly meeting.
2. The Secretary shall prepare all checks for approval, signature, and disbursement prior to each monthly meeting.
3. The Secretary shall mail all checks to the appropriate vendors following approval of claims the next day after each board meeting.

4. The Secretary shall prepare checks for mortgage notes and electrical utility bills and mail within five days prior to the due date. These are the only disbursements that have been granted pre-approval.

IX. Meter Installations, Service Extensions, Connection of New Customers

- A. Meter Installations, Service Extension, Connection of New Customers
 1. The Secretary shall refer to and strictly adhere to compliance with _____ W.A.'s Customer Service Policy (Service Extension Policy) when accepting applications and or requests for new customer service.
 2. If _____ W.A. has been officially notified by MSDH or any other regulatory agency that it is not permitted to add any new customers, the Secretary shall furnish a copy of the official letter or administrative order to the applicant along with an explanation of what steps the board is taking to correct the situation that has caused such an order. Under no circumstances, shall the Secretary accept monies, or complete a Users Agreement if such an order has been issued. However, the Secretary shall document any and all applicants that have been denied water service.
 3. The Secretary shall deposit all membership, deposit, and connection fees into the appropriate association bank accounts before the end of the month for all Users Agreements completed within the month.
 4. The Secretary shall attach the original MSDH Notice of Intent, or Affidavit Waiver to the User Agreement and shall file in the customer file.

X. Reporting

- A. The Secretary shall make a report to the board each month at The _____ Water Association's scheduled meeting concerning maintenance, compliance, and finances of the system. The Secretary shall present the Monthly O-M Report as well as Financial Records to the board.
- B. Periodically, the Contract Operator shall give the board an update of compliance results with the SDWA and concerns and recommendations that he may have regarding problems that may cause the system to be found in noncompliance.
- C. The Board Secretary shall present all pending claims including invoices, statements, and a claims docket to the board at the monthly business meeting.

**Acknowledgement of Receipt and Understanding of the _____
W.A. Standard Operating Procedures**

I, _____ hereby acknowledge that I have been given a copy of the _____ Water Association Standard Operating Procedures. I also acknowledge that I have read the SOP and fully understand my duties contained herein.

Section XII: Emergency Response Plan

Effective Response

The ability to respond rapidly and effectively in the event of an emergency is critical to the restoration of function and funds to any business. Standard operating procedures must be restored quickly to ensure the business can continue to provide vital services and meet customers' demands. Priority must be given to those operations critical to the restoration of safe water service to the public. The Emergency Response Plan is considered to be a vital part of the annual Mississippi Department of Health Capacity Assessment inspection and should be updated annually. Incomplete plans or ones that have not been annually updated will be noted as significant deficiencies for the system's Sanitary Survey. Also, all Public Water Systems must complete an Emergency Response Plan to be eligible for Rural Development funding.

The Emergency Response Plan allows the water system to address concerns about prevention, preparedness, response, and recovery in the event of an emergency. The plan asks system officials to focus on creating and updating an emergency contact list, emergency procedures, and a recovery plan. Employees should be thoroughly trained on the procedures in the system's plan, and should also be given specific assignments to focus on in the event of an emergency so that a goal of returning safe and secure water service to the customers can be realized.

Public Water System Emergency Response Plan

Template

(Revised 04/23/2007)

Provided by
Mississippi Department of Health
Bureau of Public Water Supply

**Special thanks to
Community Resources Group, Inc.
for providing this document which
has been modified to meet the needs of
Mississippi's public water systems**

Water System Emergency Response Plan

Section I. General ERP Statement

- 1.01** Pursuant to guidance from U.S. EPA and in compliance with Section 1433 of the Safe Drinking Water Act and the Emergency Planning and Community Right-to-Know Act, _____ has adopted the following Emergency Response Plan to serve as a guide to the management and other staff in responding to an emergency event. Should such an event occur, board members, employees, and other agents of the system shall use this ERP as a guide and their best judgment in preparing an appropriate response. The water system ERP shall be reviewed by the board each year and updated as necessary.

Section II. General Workplace Safety Policy Statements

2.01 General Policy Statement

Pursuant to Occupational Health and Safety Administration regulations and other federal and state laws, it is the policy of the water system to provide employees with safe and healthy working conditions. It is the policy of the water system that employees and other agents performing work for the system adhere to the following policy statements in an effort to minimize the chance of workplace accidents which can result in injuries or death to employees or others.

2.02 Reporting Workplace Hazards

The water system requires all employees to report existing and potential hazards as soon as practical to the Certified Operator. It is the responsibility of the water system board to take every reasonable measure to remove or warn employees about the reported hazards.

2.03 Contact List Posting

Copies of the water system ERP Contact List shall be posted at the water office as well as in every service truck or other vehicle owned or operated by the water system.

2.04 Safety Equipment Use

Individual safety equipment supplied by the system or safety components of equipment used by the employees of the water system including but not limited to seat belts, emergency flashing lights, hard hats, safety goggles, traffic cones or barricades, self contained breathing apparatuses, safety harnesses, or other equipment shall be used accordingly. Alteration or removal of any equipment or vehicle's safety device components including but not limited to seat belts, emergency flashing lights, emergency engine kill switches, weight sensitive seat kill switches, or other components is strictly forbidden.

2.05 Notification of Injuries

Employees must inform the Certified Operator of any on-the-job injury or accident requiring first aid or medical attention, whether or not worktime is lost. The Certified Operator will in turn conduct an investigation of any job-related injury or illness requiring a doctor's care. Injuries that require only first aid and result in no loss of production or worktime will be investigated by the Certified Operator who will in turn submit a written report to the board.

2.06 Confined Entry - Climbing Prohibition

Employees lacking proper training or OSHA certification are prohibited from entering a confined vessel including but not limited to ground storage water tanks, hydropneumatic water tanks, water standpipes, or elevated tanks. Employees are also prohibited from climbing water standpipes or elevated tanks without a safety line and harness and in the absence of another employee on the ground.

Section III. General Emergency Response Procedures

3.01 General Emergency Procedures Statement

It is recommended that the water system employees adhere to the following steps in responding to all emergency event that threaten the system, its employees, its customers, and / or its ability to maintain pressure and to supply potable water in compliance of federal / state drinking water standards.

- 3.01.1 Identify the threat to the public, customers, employees, and / or other system assets.
- 3.01.2 Take appropriate actions to prevent injuries and / or the loss of life.
- 3.01.3 Take appropriate actions to prevent additional injuries and / or damage.
- 3.01.4 Complete repairs based on priority demand.
- 3.01.5 Return water system to normal operational levels.
- 3.01.6 Evaluate effectiveness of the ERP in providing guidance to this emergency event.
- 3.01.7 Revise the ERP as necessary to improve guidance for future events of this type.

Section IV. Accident Procedures

4.01 Accidents Involving Employee

In the event of a workplace related accident causing injury to an employee of the water system, any nearby uninjured employee shall attempt to assess the severity of the injury and determine if an emergency response is necessary. If emergency aid is required, the uninjured employee shall contact the appropriate emergency response by dialing 911 and giving the dispatcher specific information related to the accident, location, and nature of the injured employee's injuries. As soon as possible, the Certified Operator should contact the water system's insurance carrier (if the system has workers compensation insurance).

4.02 Accidents Involving Others

In the event of an accident causing injury to someone other than an employee of the water system but involving an employee while on the job, the employee shall contact emergency response as soon as practical by dialing 911. The employee should give the dispatcher specific information related to the accident, location, and nature of the injuries involved. As soon as possible, the Certified Operator should contact the water system's insurance carrier and attorney. All employees shall refrain from making statements or admissions of wrong-doing without first consulting the water system's attorney.

Section V. Natural Disasters

5.01 Natural Disasters

In the event of an impending weather related warning or advisory including a thunderstorm, tornado, hurricane, winter storm, flooding, or other natural disaster, the Certified Operator should ensure that the water system is adequately prepared by securing facilities, equipment, and ensuring reasonable protection for the system employees. If a sustained electrical outage is expected, the Certified Operator should coordinate efforts with the County Emergency Management Coordinator and the Mississippi Emergency Management Agency (MEMA) to obtain electrical generators necessary temporarily restore power to water wells, booster pumps, and treatment plants. As soon as possible after the immediate danger has ended, the Certified Operator should have the employees of the water system to conduct a damage assessment of the water system. If the damage has caused or will cause a water outage, steps should be taken to restore water pressure as soon as possible and to issue a boil water notice. Furthermore, the MEMA DR-1 Flash Report should be forwarded to the Mississippi Emergency Management Agency within four hours of the event to ensure that the water system is eligible for federal / state disaster assistance.

Section VI. External Emergencies

6.01 External Emergencies

In the event of an external emergency which threatens the water system, the Certified Operator and other system employees should ensure that the probability of damage and or contamination of the water system or injury to the employees of the water system is minimized. Such events including an accidental chemical release, nuclear or other radiological release, natural gas or petroleum leak or fire, wildfire, riots or strikes, an act of terrorism or other external emergencies have the possibility of threatening the property, employees, customers, and mission of the water system. In the event of such emergency, the Certified Operator should establish communication and with the County Emergency Management Coordinator and other emergency response agencies to aid in the development of a plan to mitigate any possible damage or threat to the water system.

Section VII. Internal Emergencies

7.01 Internal Emergencies

In the event of an internal emergency which threatens the water system, the Certified Operator and other system employees should ensure that the probability of damage and or contamination of the water system, injury to employees, or injury to the public is minimized. Such events including an accidental chlorine release, fire, major water line break, or other internal emergencies have the possibility of threatening the property, employees, customers, and mission of the water system. In the event of such emergency, the Certified Operator should establish communication and with the County Emergency Management Coordinator and other emergency response agencies to aid in the development of a plan to mitigate any possible damage or threat to the water system, its employees, customers, or the public.

Section VIII. Threats and Hoaxes

8.01 Threats and Hoaxes

With the receipt of a verbal, written, or rumored threat to the water system, the Certified Operator and other system employees should consider the threat to be real until proven otherwise. Such threats including but not limited to the use of firearms, explosives, weapons of mass destruction, other weapons, and the threat of contaminating the water supply should be taken seriously. Law enforcement officials should be notified of the threat as soon as possible and steps should be taken immediately to protect the water system, its employees, and its customers. If a threat related to introducing contaminants into the potable water supply, steps should be taken to immediately contact MDH Bureau of Public Water Supply and the Mississippi Emergency Management Agency (designated Homeland Defense State Coordinating Agency) in addition to shutting off the supply of water and issuing a “Do Not Drink” notice to the customers of the water system. A thorough inspection of the water system should be implemented as soon as possible in addition to obtaining water samples at the source, storage tanks, and distribution system. Only after analytical tests have proven that no contaminants have been introduced into the water or under order from the MDH – Bureau of Public Water Supply, should the water system be re-pressurized and the “Do Not Drink” notice lifted.

Section IX. Contamination and Waterborne Disease Outbreaks

9.01 Contamination and Waterborne Disease Outbreaks

Pursuant to the water system Standard Operating and Maintenance Procedures and to the MDH Minimum Job Performance Guidelines for Certified Waterworks Operators in the State of Mississippi, the Certified Operator of the water system and other designated employees shall routinely test the disinfectant level residual of the water at the source, storage, and distribution systems. Furthermore, if the free chlorine residual level drops below 0.5 mg/l, the Certified Operator and employees shall take steps to increase the residual including the flushing of lines and raising the chlorine dosage rate and if necessary shock-chlorinating the water. However, if it is suspected that the water system has become contaminated because of increased aesthetic water quality complaints particularly related to unusual odor in the water or by reports of an increase in acute gastrointestinal illnesses or other suspicious illnesses of consumers of water supplied by the system, the Certified Operator shall contact the MDH – Bureau of Public Water Supply as soon as possible. Increased water quality monitoring should be implemented and if necessary, a thorough inspection of the system’s water tanks, backflow prevention devices, and other actions recommended by MDH should be implemented. If it is suspected that the contamination is a result of intentional sabotage or an act of terrorism, the Certified Operator shall contact the Mississippi Emergency Management Agency as soon as possible.

Section X. Water Outages

10.01 Water Outages

Pursuant to the water system’s Standard Operating and Maintenance Procedures and MDH regulations, a minimum of 20 psi should be maintained throughout the distribution system at all times. Should a major line break, power outage, telemetry failure, or other unintentional or intentional event that results in a sustained pressure of less than this minimum threshold occur, the Certified Operator should coordinate with MDH – Bureau of Public Water Supply in the issuance of a voluntary Boil Water Notice. Furthermore, bacteriological samples should be taken from the effected areas of the system and if necessary, appropriate actions to increase the disinfectant level by adjusting the chlorine dosage rate or shock treatment should be completed. Only after samples have been analyzed and determined to be clear of total coliform should the Certified Operator lift the Boil Water Notice to the effected areas of the system.

Section XI. Security Measures

11.01 Process-Oriented Security Measures

It is the policy of the water system that necessary measures are employed at all times to reduce the possibility of intentional damage to the water system's physical plant, office, vehicles and other equipment. All water well sites, tank sites, treatment plant sites are considered restricted areas. Only the payment window vestibule area and board room (only during board meetings) at the water office are not restricted areas. Only authorized employees of the water system may enter restricted areas unaccompanied. All other people are required to be accompanied by an authorized employee of the water system at all times while in restricted areas. Furthermore, all visitors to restricted areas shall be required to sign-in at the water office prior to be accompanied to a restricted area. All restricted areas shall be visibly marked "Restricted Area / Authorized Personnel Only" and shall be kept locked and secure at all times when an employee is not onsite. Other security measures shall also be followed to prevent the unauthorized use, theft, or damage to water system property. Employees shall remove keys from vehicles when not in use and lock doors to vehicles (and tool / supply storage boxes) at night and when attending meetings or training events. Keys to other equipment shall be removed when not in use and additional measures employed to prevent the unauthorized use, theft, or damage. Computers shall be password protected and should be turned off at the close of each business day.

11.02 Security Barriers

Physical and passive security barriers shall be maintained to provide reasonable protection of the water system's assets. All wells, tanks, treatment plants, and pipe / maintenance yards shall be fenced at a minimum height of 72" and include either rolled concertina or barbed wire headers. Gates shall be kept operational and shall be locked with single locks only with only authorized system employees having keys. All doors to buildings, control panels, treatment plant rooms, chemical storage rooms / buildings, and electrical control boxes shall be locked at all times. Anti-climb barriers shall be installed on elevated tanks and stand pipes. Passive barriers including motion-activated exterior security lights shall be installed and maintained at the water office and the treatment plant. All facilities including wells, tanks, treatment plants, and the water office and other buildings shall have security night lights. Other passive barriers including keeping brush and vegetation off of or hanging over fences shall be implemented.

Section XII. Recovery Plan

12.01 Recovery Plan

In the event of an emergency that causes catastrophic damage to the water system, the Certified Operator shall coordinate with the system's insurance carrier and if applicable with the County Emergency Management Coordinator in the development of a recovery plan to return the system to normal operations as soon as possible. The Certified Operator shall also be responsible for giving periodical updates to the board, to the news media, and to customers during the recovery phase of an emergency. Assistance from outside contractors as well as mutual aid providers shall be requested as necessary to expedite recovery operations.

Section XIII. Emergency Response Training and Drilling

13.01 Contamination and Waterborne Disease Outbreaks

It is the policy of the water system that the management and other system employees have the knowledge and the skills necessary to effectively function during an emergency crisis. The Certified Operator shall ensure that other employees of the system have adequate training opportunities made available. Periodically, the Certified Operator should conduct practice exercises and mock emergency drills to ensure the proper response and readiness of system personnel in handling emergency situations. It is recommended that the Certified Operator involve other local / state agencies as well as neighboring water systems and mutual aid providers in the planning, coordination, and participation in these exercises.

Section XIV. ERP Confidentiality

14.01 ERP Confidentiality

The water system Emergency Response Plan is a controlled document not intended for release to the general public. Every effort shall be made to keep the contents of this ERP confidential and prevent its intentional or unintentional release to others who may use it to identify weaknesses or procedural errors that can be exploited to cause harm to the water system. Release of this document is permitted to only authorized government agencies as required by law and to the County Emergency Management Coordinator.

**Section XV.
Appendix Forms**

15.01 Appendix Forms

The following Appendix Forms are an integral component of the water system Emergency Response Plan and shall be used in the execution of the aforementioned procedures. Furthermore, copies of all completed forms shall be kept on permanent file at the water office.

1. Emergency Response Plan Contact List
2. Water System Restricted Area Visitor Log
3. MEMA-DR1 Flash Report Form
4. Policy Certification Form

Emergency Response Plan Contact List

1.0 Water System Contacts		Name	Title	Phone	Alternate
1.01	Water Office				
1.02	Board Members				
1.03	Employees				
1.04	Attorney				
1.05	Engineer				
1.06	Insurance Carrier				
2.0 Emergency Response Contacts		Name	Title	Phone	Alternate
2.01	Law Enforcement				
2.02	Fire Department				
2.03	Emergency Medical Service				
2.04	County Emergency Management				
2.05	County Health Department				
2.06	MDH – Bureau of PWS				
2.07	MEMA				
2.08	MSDEQ				
2.09	HAZ-MAT Response Team				
2.10	MS Highway Safety Patrol				
2.11	FBI Field Office				

Emergency Response Plan Contact List

3.0	Critical Needs Customers	Company / Org.	Contact Name	Phone	Alternate
3.01	Hospitals				
3.02	Nursing Homes				
3.03	Schools				
3.04	Day Care Facilities				
3.05	Consecutive Water Systems				
3.06	Industrial Critical Customers				
3.07	Commercial Critical Customers				
3.08	Residential (Special Needs)				
4.0	Utility Providers	Company	Contact Name	Phone	Alternate
4.01	Water (Consecutive System)				
4.02	Electrical Utility				
4.03	Telephone Company				
4.04	Natural Gas Utility				
5.0	Emergency Aid Providers	Company	Contact Name	Phone	Alternate
5.01	Excavator Service				
5.02	Well Repair Service				
5.03	Electric Motor Repair Service				
5.04	Electrician				
5.05	Contract Repair Service				
5.06	Mutual Aid Provider #1				
5.07	Mutual Aid Provider #2				
5.08	Equipment Rental (Excavator)				
5.09	Equipment Rental (Generator)				
6.0	Other Emergency Contacts	Company / Org.	Contact Name	Phone	Alternate
6.01	MS One Call				
6.02	CRG-RCAP Technical Assist.				
6.03	Newspaper				
6.04	Radio				
6.05	Television				

Mississippi Emergency Management Agency

INITIAL DISASTER REPORT

(Submit within 4 hours – see NOTE below)

1. Name of County impacted by this event: County Name
2. Cause of emergency /disaster/damage (check as many as applies) [] tornado [] straight line winds [] down burst winds [] flash flooding [] riverline flooding [] hurricane [] tropical storm [] earthquake [] Other _____(explain)
3. When did it happen? Day Date: (/ /) Time: [] am [] pm
4. Identify the area(s) within the County impacted by this event: The Water System Service Area

5. EXTENT OF DAMAGE	HOMES	MOBILE HOMES	APARTMENTS	BUILDINGS BUS. - FARM	PUBLIC ROADS/ BRIDGES
Minor Damage					
Major Damage					
Destroyed					
Totals					

13. Casualties? Injured: Hospitalized: Dead: Missing: Homeless:
7. Are shelters open? [] YES [] NO Not required
8. If sheltering required, request MEMA notify American Red Cross / Dept. of Human Services? [] YES [] NO
9. If shelters are open, are they operated by American Red Cross [] YES [] NO [] UNSURE

10. If shelters open, list names of shelter, location, address (if known) and approximate number of people sheltered below:

11. Describe type of state assistance/resources needed:

12. List immediate priorities:

INFORMATION PROVIDED BY:	(SUBMIT INFORMATION TO:
Name Title	Mississippi Emergency Management Agency (MEMA)
Agency The water system	Attn: Communications Section / Operations Officer
Address	PO Box 4501 Jackson, MS 39296-4501
City/Zip	Telephone Number (24-hours) 601.352.9100
Telephone (area code first) Fax	Fax Number 601.352.8314
<p>NOTE: This INITIAL DISASTER REPORT (DR-1) is your first report of an incident. <i>Use it only one time to record the initial impact</i>, then use the SITUATION REPORT (DR-2) forms for updating as more information becomes available. This and other DR forms can be used for local internal reporting and documentation in addition to forwarding to MEMA.</p>	<p>Internal actions If the above report was obtained from information received over the telephone, person making report sign below:</p> <p>Signature:</p> <p>Date:</p>

MEMA DR-1 revised (12/97)

CERTIFICATION OF ADOPTION

I hereby certify that the above _____ Emergency Response Plan was adopted by a motion properly made, seconded, and approved by the water system board on the _____ day _____ A.D. with the effective date being _____ day of _____ A.D. I further certify that the policy remains in force, has not been amended, or rescinded.

Certified Record of Vote: _____ voting "Yes", _____ voting "No", _____ Abstaining or Absent.

Directors voting "Yes"

Directors voting "No"

Directors Absent or Abstaining

Name of Responsible Official (Please Print or Type)

Responsible Official Name / Signature

Date

Section XIII: Security Vulnerability Assessment Guide

Assessing Vulnerabilities

The maintenance and security of all Public Water System facilities and resources are critical to prevent contamination of the public water supply and encourages the preservation of the system's critical assets. Complex water treatment components, capital intensive assets, and vital system data can be compromised if site security is lacking. The Security Vulnerability Assessment is verified as part of the annual Mississippi Department of Health Capacity Assessment inspection and should be updated annually. Many of the weaknesses recognized in the assessment are noted as significant deficiencies by regional engineers during this inspection. Also, not completing the Security Vulnerability Assessment can be listed as a significant deficiency itself. All Public Water Systems must complete a Security Vulnerability Assessment to be eligible for Rural Development funding.

The Security Vulnerability Assessment is a self-assessment tool used to help identify the potential threats to the water system and identify any of the system's weaknesses in preparedness and security. It allows system officials create a list of critical assets, identify weak points, prioritize actions to address the weaknesses, and develop an emergency contact list. The Security Vulnerability Assessment should be incorporated as part of the system's short and long-range plans for improvement and should be discussed with all employees to ensure preparedness. Any vulnerability identified through the assessment should be addressed in a timely manner to prevent being classified as significant deficiencies on the system's next Capacity Assessment.

Security Vulnerability Self-Assessment Guide for Mississippi's Public Water Systems

NAME OF PUBLIC WATER SYSTEM

PWS ID NUMBER(S)

Date Completed

**Date Last Updated
(should be updated annually)**

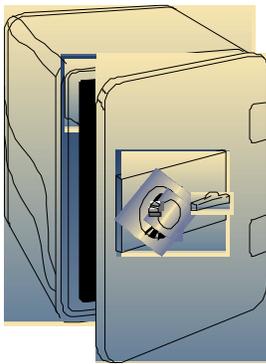


**MISSISSIPPI DEPARTMENT
OF HEALTH**

**BUREAU OF PUBLIC WATER
SUPPLY**

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A Note about Security for this Document



This document contains sensitive information about the security of your water system. Therefore, it should be treated as **Confidential Information** and should be stored in a secure place at your water system. A duplicate copy should also be stored in a secure off-site location.

Acknowledgments

This document is the result of collaboration among the Association of Drinking Water Administrators (ASDWA), the U.S. Environmental Protection Agency (U.S. EPA), the U.S. EPA Drinking Water Academy, and the National Rural Water Association (NRWA). We also thank NRWA for the template that was used as the foundation for this project.

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Security Vulnerability Self-Assessment Guide for Mississippi Public Water Systems

Introduction

Water systems are critical to every community. Protection of public drinking water systems must be a high priority for local officials and water system owners and operators to ensure an uninterrupted water supply, which is essential for the protection of public health (safe drinking water and sanitation) and safety (fire fighting).

Adequate security measures will help prevent loss of service through terrorist acts, vandalism, or pranks. If your system is prepared, such actions may even be prevented. The appropriate level of security is best determined by the water system at the local level.

This Security Vulnerability Self-Assessment Guide is designed to help public water systems determine possible vulnerable components and identify security measures that should be considered. A “vulnerability assessment” is the identification of weaknesses in water system security, focusing on defined threats that could compromise its ability to provide adequate potable water, and/or water for firefighting. This document is designed particularly for systems that serve populations of 3,300 or less. This document is meant to encourage smaller systems to review their system vulnerabilities, but it may not take the place of a comprehensive review by security experts.

The Self-Assessment Guide has a simple design. Answers to assessment questions are “yes” or “no,” and there is space to identify needed actions and actions you have taken to improve security. For any “no” answer, refer to the “comment” column and/or contact your state drinking water primacy agency.

How to Use this Self-Assessment Guide

This document is designed for use by water system personnel. Physical facilities pose a high degree of exposure to any security threat. This self-assessment should be conducted on all components of your system (wellhead or surface water intake, treatment plant, storage tank(s), pumps, distribution system, and other important components of your system).

The Assessment includes an emergency contact list for your use. This list will help you identify who you need to contact in the event of an emergency or threat and will help you develop communication and outreach procedures. Filling out the Emergency Contact List is an important step toward developing an Emergency Response Plan, which provides detailed procedures on how to respond to an emergency.

You may be able to obtain sample Emergency Response Plans from your state drinking water primacy agency.

Security is everyone’s responsibility. We hope this document helps you to increase the awareness of all your employees, governing officials, and customers about security issues.

Once you have completed this document, review the actions you need to take to improve your system’s security. Make sure to prioritize your actions based on the most likely threats. Please complete the Certificate of Completion on page 27 and return only the certificate to your state drinking water primacy agency. Do not include a full copy of your self-assessment.

Keep this Document

This is a working document. Its purpose is to start your process of security vulnerability assessment and security enhancements. Security is not an end point, but a goal that can be achieved only through continued efforts to assess and upgrade your system.

Don’t forget that this is a sensitive document. It should be stored separately in a secure place at your water system. A duplicate copy should also be retained at a secure off-site location.

Access to this document should be limited to key water system personnel and local officials as well as the state drinking water primacy agency and others on a need-to-know basis.

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Security Vulnerability Self-Assessment

Record of Security Vulnerability Self-Assessment Completion

The following information should be completed by the individual conducting the self-assessment and/or any additional revisions.

Name: _____
Title: _____
Area of Responsibility: _____
Water System Name: _____
Water System PWSID: _____
Address: _____
City: _____
County: _____
State: _____
Zip Code: _____
Telephone: _____
Fax: _____
E-mail: _____
Date Completed: _____

Date Revised: _____	Signature: _____

Page # ___ **of** ___ _____

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Inventory of Public Water System Critical Components

Component	Number & Location (if applicable)	Description
Source Water Type		
Ground Water		
Surface Water		
Purchased		
Treatment Plant		
Buildings		
Pumps		
Treatment Equipment (e.g., basin, clearwell, filter)		
Process Controls		
Treatment Chemicals and Storage		
Laboratory Chemicals and Storage		
Storage		
Storage Tanks		
Pressure Tanks		
Power		
Primary Power		
Auxiliary Power		
Distribution System		
Pumps		
Pipes		
Valves		
Appurtenances (e.g., flush hydrants, backflow preventers, meters)		
Other Vulnerable Points		
Offices		
Buildings		
Computers		
Files		
Transportation/ Work Vehicles		
Communications		
Telephone		
Cell Phone		
Radio		
Computer Control Systems (SCADA)		

NOTE: Use additional pages if necessary to fully document all equipment.

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Security Vulnerability Self-Assessment for Public Water Systems

General Questions for the Entire Water System

The first 13 questions in this vulnerability self-assessment are general questions designed to apply to all components of your system (wellhead or surface water intake, treatment plant, storage tank(s), pumps, distribution system, and offices). These are followed by more specific questions that look at individual system components in greater detail.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
1. Do you have a written emergency response plan (ERP)?	Yes No	<p>It is essential that you have an ERP. If you do not have an ERP, you can obtain a sample from your state drinking water primacy agency. As a first step in developing your ERP, you should develop your Emergency Contact List (see Attachment 2).</p> <p>A plan is vital in case there is an incident that requires immediate response. Your plan should be reviewed at least annually (or more frequently if necessary) to ensure it is up-to-date and addresses security emergencies.</p> <p>You should designate someone to be contacted in case of emergency regardless of the day of the week or time of day. This contact information should be kept up-to-date and made available to all water system personnel and local officials (if applicable).</p> <p>Share this ERP with police, emergency personnel, and your state primacy agency. Posting contact information is a good idea only if authorized personnel are the only ones seeing the information. These signs could pose a security risk if posted for public viewing since it gives people information that could be used against the system.</p>	
2. Is access to the critical components of the water system (i.e., a part of the physical infrastructure of the system that is essential for water flow and/or water quality) restricted to authorized personnel only?	Yes No	<p>You should restrict or limit access to the critical components of your water system to authorized personnel only. This is the first step in security enhancement for your water system. Consider the following:</p> <ul style="list-style-type: none"> ◆ Issue water system photo identification cards for employees, and require them to be displayed within the restricted area at all times. ◆ Post signs restricting entry to authorized personnel and ensure that assigned staff escort people without proper ID. 	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
3. Are facilities fenced, including wellhouses and pump pits, and are gates locked where appropriate?	Yes No	<p>Ideally, all facilities should have a security fence around the perimeter.</p> <p>The fence perimeter should be walked periodically to check for breaches and maintenance needs. All gates should be locked with chains and a tamper-proof padlock that at a minimum protects the shank. Other barriers such as concrete "jersey" barriers should be considered to guard certain critical components from accidental or intentional vehicle intrusion.</p>	
4. Are your doors, windows, and other points of entry such as tank and roof hatches and vents kept closed and locked?	Yes No	<p>Lock all building doors and windows, hatches and vents, gates, and other points of entry to prevent access by unauthorized personnel. Check locks regularly. Dead bolt locks and lock guards provide a high level of security for the cost.</p> <p>A daily check of critical system components enhances security and ensures that an unauthorized entry has not taken place.</p> <p>Doors and hinges to critical facilities should be constructed of heavy-duty reinforced material. Hinges on all outside doors should be located on the inside.</p> <p>To limit access to water systems, all windows should be locked and reinforced with wire mesh or iron bars, and bolted on the inside. Systems should ensure that this type of security meets with the requirements of any fire codes. Alarms can also be installed on windows, doors, and other points of entry.</p>	
5. Is there external lighting around the critical components of your water system?	Yes No	<p>Adequate lighting of the exterior of water systems' critical components is a good deterrent to unauthorized access and may result in the detection or deterrence of trespassers. Motion detectors that activate switches that turn lights on or trigger alarms also enhance security.</p>	
6. Are warning signs (tampering, unauthorized access, etc.) posted on all critical components of your water system? (For example, well houses and storage tanks.)	Yes No	<p>Warning signs are an effective means to deter unauthorized access.</p> <p>"Warning – Tampering with this facility is a federal offense" should be posted on all water facilities. These are available from your state rural water association.</p> <p>"Authorized Personnel Only," "Unauthorized Access Prohibited," and "Employees Only" are examples of other signs that may be useful.</p>	
7. Do you patrol and inspect your source intake, buildings, storage tanks, equipment, and other critical components?	Yes No	<p>Frequent and random patrolling of the water system by utility staff may discourage potential tampering. It may also help identify problems that may have arisen since the previous patrol.</p> <p>Consider asking your local law enforcement agencies to conduct patrols of your water system. Advise them of your critical components and explain why they are important.</p>	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
8. Is the area around the critical components of your water system free of objects that may be used for breaking and entering?	Yes No	When assessing the area around your water system's critical components, look for objects that could be used to gain entry (e.g., large rocks, cement blocks, pieces of wood, ladders, valve keys, and other tools).	
9. Are the entry points to your water system easily seen?	Yes No	You should clear fence lines of all vegetation. Overhanging or nearby trees may also provide easy access. Avoid landscaping that will permit trespassers to hide or conduct unnoticed suspicious activities. Trim trees and shrubs to enhance the visibility of your water system's critical components. If possible, park vehicles and equipment in places where they do not block the view of your water system's critical components.	
10. Do you have an alarm system that will detect unauthorized entry or attempted entry at critical components?	Yes No	Consider installing an alarm system that notifies the proper authorities or your water system's designated contact for emergencies when there has been a breach of security. Inexpensive systems are available. An alarm system should be considered whenever possible for tanks, pump houses, and treatment facilities. You should also have an audible alarm at the site as a deterrent and to notify neighbors of a potential threat.	
11. Do you have a key control and accountability policy?	Yes No	Keep a record of locks and associated keys, and to whom the keys have been assigned. This record will facilitate lock replacement and key management (e.g., after employee turnover or loss of keys). Vehicle and building keys should be kept in a lockbox when not in use. You should have all keys stamped (engraved) "DO NOT DUPLICATE."	
12. Are entry codes and keys limited to water system personnel only?	Yes No	Suppliers and personnel from co-located organizations (e.g., organizations using your facility for telecommunications) should be denied access to codes and/or keys. Codes should be changed frequently if possible. Entry into any building should always be under the direct control of water system personnel.	
13. Do you have a neighborhood watch program for your water system?	Yes No	Watchful neighbors can be very helpful to a security program. Make sure they know whom to call in the event of an emergency or suspicious activity.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
14. Are your wellheads sealed properly?	Yes No	A properly sealed wellhead decreases the opportunity for the introduction of contaminants. If you are not sure whether your wellhead is properly sealed, contact your well drilling/maintenance company, your state drinking water primacy agency, your state rural water association, or other technical assistance providers.	
15. Are well vents and caps screened and securely attached?	Yes No	Properly installed vents and caps can help prevent the introduction of a contaminant into the water supply. Ensure that vents and caps serve their purpose, and cannot be easily breached or removed.	
16. Are observation/test and abandoned wells properly secured to prevent tampering?	Yes No	All observation/test and abandoned wells should be properly capped or secured to prevent the introduction of contaminants into the aquifer or water supply. Abandoned wells should be either removed or filled with concrete.	
17. Is your surface water source secured with fences or gates? Do water system personnel visit the source?	Yes No	Surface water supplies present the greatest challenge to secure. Often, they encompass large land areas. Where areas cannot be secured, steps should be taken to initiate or increase patrols by water utility personnel and law enforcement agents.	
Some small systems provide easy access to their water system for suppliers of equipment, chemicals, and other materials for the convenience of both parties. This practice should be discontinued.			
Water Sources			
<i>In addition to the above general checklist for your entire water system (questions 1-13), you should give special attention to the following issues, presented in separate tables, related to various water system components. Your water sources (surface water intakes or wells) should be secured. Surface water supplies present the greatest challenge. Typically they encompass large land areas. Where areas cannot be secured, steps should be taken to initiate or increase law enforcement patrols. Pay particular attention to surface water intakes. Ask the public to be vigilant and report suspicious activity.</i>			
Treatment Plant and Suppliers			
QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
18. Are deliveries of chemicals and other supplies made in the presence of water system personnel?	Yes No	Establish a policy that an authorized person, designated by the water system, must accompany all deliveries. Verify the credentials of all drivers. This prevents unauthorized personnel from having access to the water system.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
20. Are chemicals, particularly those that are potentially hazardous or flammable, properly stored in a secure area?	Yes No	All chemicals should be stored in an area designated for their storage only, and the area should be secure and access to the area restricted. Access to chemical storage should be available only to authorized employees. You should have tools and equipment on site (such as a fire extinguisher, dry sweep, etc.) to take immediate actions when responding to an emergency.	
19. Have you discussed with your supplier(s) procedures to ensure the security of their products?	Yes No	Verify that your suppliers take precautions to ensure that their products are not contaminated. Chain of custody procedures for delivery of chemicals should be reviewed. You should inspect chemicals and other supplies at the time of delivery to verify they are sealed and in unopened containers. Match all delivered goods with purchase orders to ensure that they were, in fact, ordered by your water system. You should keep a log or journal of deliveries. It should include the driver's name (taken from the driver's photo I.D.), date, time, material delivered, and the supplier's name.	
21. Do you monitor raw and treated water so that you can detect changes in water quality?	Yes No	Monitoring of raw and treated water can establish a baseline that may allow you to know if there has been a contamination incident. Some parameters for raw water include pH, turbidity, total and fecal coliform, total organic carbon, specific conductivity, ultraviolet adsorption, color, and odor. Routine parameters for finished water and distribution systems include free and total chlorine residual, heterotrophic plate count (HPC), total and fecal coliform, pH, specific conductivity, color, taste, odor, and system pressure. Chlorine demand patterns can help you identify potential problems with your water. A sudden change in demand may be a good indicator of contamination in your system.	
22. Are tank ladders, access hatches, and entry points secured?	Yes No	For those systems that use chlorine, absence of a chlorine residual may indicate possible contamination. Chlorine residuals provide protection against bacterial and viral contamination that may enter the water supply. The use of tamper-proof padlocks at entry points (hatches, vents, and ladder enclosures) will reduce the potential for unauthorized entry. If you have towers, consider putting physical barriers on the legs to prevent unauthorized climbing.	

<p>23. Are vents and overflow pipes properly protected with screens and/or grates?</p>	<p>Yes</p>	<p>No</p>	<p>Air vents and overflow pipes are direct conduits to the finished water in storage facilities. Secure all vents and overflow pipes with heavy-duty screens and/or grates.</p>
<p>24. Can you isolate the storage tank from the rest of the system?</p>	<p>Yes</p>	<p>No</p>	<p>A water system should be able to take its storage tank(s) out of operation or drain its storage tank(s) if there is a contamination problem or structural damage. Install shut-off or bypass valves to allow you to isolate the storage tank in the case of a contamination problem or structural damage. Consider installing a sampling tap on the storage tank outlet to test water in the tank for possible contamination.</p>

Distribution

Hydrants are highly visible and convenient entry points into the distribution system. Maintaining and monitoring positive pressure in your system is important to provide fire protection and prevent introduction of contaminants.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
25. Do you control the use of hydrants and valves?	Yes No	Your water system should have a policy that regulates the authorized use of hydrants for purposes other than fire protection. Require authorization and backflow devices if a hydrant is used for any purpose other than fire fighting. Consider designating specific hydrants for use as filling station(s) with proper backflow prevention (e.g., to meet the needs of construction firms). Then, notify local law enforcement officials and the public that these are the only sites designated for this use. Flush hydrants should be kept locked to prevent contaminants from being introduced into the distribution system, and to prevent improper use.	
26. Does your system monitor for, and maintain, positive pressure?	Yes No	Positive pressure is essential for fire fighting and for preventing back-siphonage that may contaminate finished water in the distribution system. Refer to your state primary agency for minimum drinking water pressure requirements.	
27. Has your system implemented a backflow prevention program?	Yes No	In addition to maintaining positive pressure, backflow prevention programs provide an added margin of safety by helping to prevent the intentional introduction of contaminants. If you need information on backflow prevention programs, contact your state drinking water primary agency.	

Personnel

You should add security procedures to your personnel policies.

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
28. When hiring personnel, do you request that local police perform a criminal background check, and do you verify employment eligibility (as required by the Immigration and Naturalization Service, Form I-9)?	Yes No	It is good practice to have all job candidates fill out an employment application. You should verify professional references. Background checks conducted during the hiring process may prevent potential employee-related security issues. If you use contract personnel, check on the personnel practices of all providers to ensure that their hiring practices are consistent with good security practices.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
29. Are your personnel issued photo-identification cards?	Yes No	For positive identification, all personnel should be issued water system photo-identification cards and be required to display them at all times.	
30. When terminating employment, do you require employees to turn in photo IDs, keys, access codes, and other security-related items?	Yes No	Photo identification will also facilitate identification of authorized water system personnel in the event of an emergency. Former or disgruntled employees have knowledge about the operation of your water system, and could have both the intent and physical capability to harm your system. Requiring employees who will no longer be working at your water system to turn in their IDs, keys, and access codes helps limit these types of security breaches.	
31. Do you use uniforms and vehicles with your water system name prominently displayed?	Yes No	Requiring personnel to wear uniforms, and requiring that all vehicles prominently display the water system name, helps inform the public when water system staff is working on the system. Any observed activity by personnel without uniforms should be regarded as suspicious. The public should be encouraged to report suspicious activity to law enforcement authorities.	
32. Have water system personnel been advised to report security vulnerability concerns and to report suspicious activity?	Yes No	Your personnel should be trained and knowledgeable about security issues at your facility, what to look for, and how to report any suspicious events or activity. Periodic meetings of authorized personnel should be held to discuss security issues.	
33. Do your personnel have a checklist to use for threats or suspicious calls or to report suspicious activity?	Yes No	To properly document suspicious or threatening phone calls or reports of suspicious activity, a simple checklist can be used to record and report all pertinent information. Calls should be reported immediately to appropriate law enforcement officials. Checklists should be available at every telephone. Sample checklists are included in Attachment 3. Also consider installing caller ID on your telephone system to keep a record of incoming calls.	
<i>Security of the system, including computerized controls like a Supervisory Control and Data Acquisition (SCADA) system, goes beyond the physical aspects of operation. It also includes records and critical information that could be used by someone planning to disrupt or contaminate your water system.</i>			
QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
Information storage/computers/controls/maps			

<p>34. Is computer access "password protected?" Is virus protection installed and software upgraded regularly and are your virus definitions updated at least daily? Do you have Internet firewall software installed on your computer? Do you have a plan to back up your computers?</p>	<p>Yes No</p>	<p>All computer access should be password protected. Passwords should be changed every 90 days and (as needed) following employee turnover. When possible, each individual should have a unique password that they do not share with others. If you have Internet access, a firewall protection program should be installed on your computer.</p> <p>Also consider contacting a virus protection company and subscribing to a virus update program to protect your records.</p> <p>Backing up computers regularly will help prevent the loss of data in the event that your computer is damaged or breaks. Backup copies of computer data should be made routinely and stored at a secure off-site location.</p>	
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QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
35. Is there information on the Web that can be used to disrupt your system or contaminate your water?	Yes No	Posting detailed information about your water system on a Web site may make the system more vulnerable to attack. Web sites should be examined to determine whether they contain critical information that should be removed. You should do a Web search (using a search engine such as Google, Yahoo!, or Lycos) using key words related to your water supply to find any published data on the Web that is easily accessible by someone who may want to damage your water supply.	
<i>You should educate your customers about your system. You should encourage them to be alert and to report any suspicious activity to law enforcement authorities.</i>			
36. Are maps, records, and other information stored in a secure location?	Yes No	Records, maps, and other information should be stored in a secure location when not in use. Access should be limited to authorized personnel only. You should make back-up copies of all data and sensitive documents. These should be stored in a secure off-site location on a regular basis.	
37. Are copies of records, maps, and other sensitive information labeled confidential, and are all copies controlled and returned to the water system?	Yes No	Sensitive documents (e.g., schematics, maps, and plans and specifications) distributed for construction projects or other uses should be recorded and recovered after use. You should discuss measures to safeguard your documents with bidders for new projects.	
38. Are vehicles locked and secured at all times?	Yes No	Vehicles are essential to any water system. They typically contain maps and other information about the operation of the water system. Water system personnel should exercise caution to ensure that this information is secure. Water system vehicles should be locked when they are not in use or left unattended. Remove any critical information about the system before parking vehicles for the night. Vehicles also usually contain tools (e.g., valve wrenches) that could be used to access critical components of your water system. These tools should be secured and accounted for daily.	
Public Relations			
QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
39. Do you have a program to educate and encourage the public to be vigilant and report suspicious activity to assist in the security protection of your water system?	Yes No	Advise your customers and the public that your system has increased preventive security measures to protect the water supply from vandalism. Ask for their help. Provide customers with your telephone number and the telephone number of the local law enforcement authority so that they can report suspicious activities. The telephone number can be made available through direct mail, billing inserts, notices on community bulletin boards, flyers, and consumer confidence reports.	

QUESTION	ANSWER	COMMENT	ACTION NEEDED/TAKEN
40. Does your water system have a procedure to deal with public information requests, and to restrict distribution of sensitive information?	Yes No	<p>You should have a procedure for personnel to follow when you receive an inquiry about the water system or its operation from the press, customers, or the general public.</p> <p>Your personnel should be advised not to speak to the media on behalf of the water system. Only one person should be designated as the spokesperson for the water system. Only that person should respond to media inquiries. You should establish a process for responding to inquiries from your customers and the general public.</p>	
41. Do you have a procedure in place to receive notification of a suspected outbreak of a disease immediately after discovery by local health agencies?	Yes No	<p>It is critical to be able to receive information about suspected problems with the water at any time and respond to them quickly. Procedures should be developed in advance with your state drinking water primacy agency, local health agencies, and your local emergency planning committee.</p>	
42. Do you have a procedure in place to advise the community of contamination immediately after discovery?	Yes No	<p>As soon as possible after a disease outbreak, you should notify testing personnel and your laboratory of the incident. In outbreaks caused by microbial contaminants, it is critical to discover the type of contaminant and its method of transport (water, food, etc.). Active testing of your water supply will enable your laboratory, working in conjunction with public health officials, to determine if there are any unique (and possibly lethal) disease organisms in your water supply.</p> <p>It is critical to be able to get the word out to your customers as soon as possible after discovering a health hazard in your water supply. In addition to your responsibility to protect public health, you must also comply with the requirements of the Public Notification Rule. Some simple methods include announcements via radio or television, door-to-door notification, a phone tree, and posting notices in public places. The announcement should include accepted uses for the water and advice on where to obtain safe drinking water. Call large facilities that have large populations of people who might be particularly threatened by the outbreak: hospitals, nursing homes, the school district, jails, large public buildings, and large companies. Enlist the support of local emergency response personnel to assist in the effort.</p>	
43. Do you have a procedure in place to respond immediately to a customer complaint about a new taste, odor, color, or other physical change (oily, filmy, burns on contact with skin)?	Yes No	<p>It is critical to be able to respond to and quickly identify potential water quality problems reported by customers. Procedures should be developed in advance to investigate and identify the cause of the problem, as well as to alert local health agencies, your state drinking water primacy agency, and your local emergency planning committee if you discover a problem.</p>	

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IMPORTANT

Now that you have completed the “Security Vulnerability Self-Assessment Guide for Mississippi Public Water Systems,” review your needed actions and then prioritize them based on the most likely threats. A Table to assist you in prioritizing actions is provided in Attachment 1.

Attachment 2. Emergency Contact List

We urge all public water systems to adopt an emergency response plan (ERP). Emergency plans are action steps to follow if a primary source of drinking water becomes contaminated or if the flow of water is disrupted. You can obtain sample ERPs from your state drinking water administrator, or from your state primacy agency.

This sample document is an “Emergency Contact List.” It is an essential part of your ERP. It contains the names and telephone numbers of people you might need to call in the event of an emergency. This is a critical document to have at your disposal at all times. It gives you a quick reference to all names and telephone numbers that you need for support in the case of an emergency.

Filling out this Emergency Contact List reminds you to think about all of the people you might need to contact in an emergency. It also may encourage you to talk with these people about what you and they would do if an emergency were to occur.

Section 1. System Identification

Public Water System (PWS) ID Number		
System Name		
Town/City		
Telephone Numbers	System Telephone	Evening/Weekend Telephone
Other Contact Information	System Fax	Email
Population Served and Number of Service Connections	People Served	Connections
System Owner (The owner must be listed as a person’s name)		
Name, title, and telephone number of person responsible for maintaining this emergency contact list	Name and title	Telephone

Local Notification List

ORGANIZATION	CONTACT NAME/TITLE	TELEPHONE (DAY)	TELEPHONE (NIGHT)	EMAIL
Fire Department				
Police Department				
FBI Field Office				
County Health Department				
Primacy Agency District Office				
Local Hospital				
Local Emergency Planning Committee				
EMS				
Local Pharmacy				
Local Nursing Homes				
Local Schools				
Local Prisons				
Local Government Official				
Local Hazmat Team				
Water System Operator				
Neighboring Water System				
Neighboring Water System				
Other				

Service/Repair Notification List

ORGANIZATION	CONTACT NAME/TITLE	TELEPHONE (DAY)	TELEPHONE (NIGHT)	EMAIL
Electrician				
Electric Utility Company				
Gas Utility Company				
Sewer Utility Company				
Telephone Utility Company				
Plumber				
Pump Specialist				
"Dig Safe" or local equivalent				
Soil Excavator/Backhoe Operator				
Equipment Rental (Power Generators)				
Equipment Rental (Chlorinators)				
Equipment Rental (Portable Fencing)				
Equipment Repairman				
Radio/Telemetry Repair Service				
Bottled Water Source				
Bulk Water Hauler				
Pump Supplier				
Well Drillers				
Pipe Supplier				
Chemical Supplier				
Local/Regional Analytical Laboratory				

State Notification List

ORGANIZATION	CONTACT NAME/TITLE	TELEPHONE (DAY)	TELEPHONE (NIGHT)	EMAIL
MS Dept of Health/Bureau of Public Water Supply	Keith Allen, P.E., Director	601 .576.7518 (8 a.m.-5 p.m.; Monday-Friday)	601 .576.7400	kallen@msdh.state.ms.us
MS Department of Environmental Quality				
Mississippi Emergency Management Agency				
County Emergency Management				
Hazmat Hotline				

Media Notification List

ORGANIZATION	CONTACT NAME/TITLE	TELEPHONE (DAY)	TELEPHONE (NIGHT)	EMAIL
Designated Water System Spokesperson				
Newspaper - Local				
Newspaper – Regional/State				
Radio				
Radio				
Radio				
Television				
Television				
Television				

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Section 3. Communication and Outreach

Communication

Communications during an emergency poses some special problems. A standard response might be to call “911” for local fire and police departments. But what if your emergency had disrupted telephone lines and over-loaded cell phone lines? Talk with your county emergency management agency about local emergency preparedness and solutions to these problems. Increasingly, state emergency agencies are establishing secure lines of communication with limited access. Learn how you can access those lines of communication if all others fail.

Outreach

If there is an incident of contamination in your water supply, you will need to notify the public and make public health recommendations (e.g., boil water, or use bottled water). To do this, you need a plan.

- X How will you reach all customers in the first 24 hours of an emergency?
- X Appoint a media spokesperson—a single person in your water system who will be authorized to make all public statements to the media.
- X Make arrangements for contacting institutions with large numbers of people, some of whom may be immuno-compromised:
 - Nursing homes
 - Hospitals
 - Schools
 - Prisons

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Attachment 3: Threat Identification Checklists

Water System Telephone Threat Identification Checklist

In the event your water system receives a threatening phone call, remain calm and try to keep the caller on the line. Use the following checklist to collect as much detail as possible about the nature of the threat and the description of the caller.

1. Types of Tampering/Threat: <input type="checkbox"/> Contamination <input type="checkbox"/> Biological <input type="checkbox"/> Chemical <input type="checkbox"/> Threat to tamper <input type="checkbox"/> Bombs, explosives, etc. <input type="checkbox"/> Other (explain)
2. Water System Identification: Name: Address: Telephone: PWS Owner or Manager's Name:
3. Alternate Water Source Available: Yes/No If yes, give name and location:
4. Location of Tampering: <input type="checkbox"/> Distribution Line <input type="checkbox"/> Water Storage Facilities <input type="checkbox"/> Treatment Plant <input type="checkbox"/> Raw Water Source <input type="checkbox"/> Treatment Chemicals <input type="checkbox"/> Other (explain):
5. Contaminant Source and Quantity:
7. Date and Time of Tampering/Threat:
8. Caller's Name/Alias, Address, and Telephone Number:
9. Is the Caller (check all that apply): <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Foul <input type="checkbox"/> Illiterate <input type="checkbox"/> Well Spoken <input type="checkbox"/> Irrational <input type="checkbox"/> Incoherent

10. Is the Caller's Voice (check all that apply): <input type="checkbox"/> Soft <input type="checkbox"/> Calm <input type="checkbox"/> Angry <input type="checkbox"/> Slow <input type="checkbox"/> Rapid <input type="checkbox"/> Slurred <input type="checkbox"/> Loud <input type="checkbox"/> Laughing <input type="checkbox"/> Crying <input type="checkbox"/> Normal <input type="checkbox"/> Deep <input type="checkbox"/> Nasal <input type="checkbox"/> Clear <input type="checkbox"/> Lispering <input type="checkbox"/> Stuttering <input type="checkbox"/> Old <input type="checkbox"/> High <input type="checkbox"/> Cracking <input type="checkbox"/> Excited <input type="checkbox"/> Young <input type="checkbox"/> Familiar (who did it sound like?) <input type="checkbox"/> Accented (which nationality or region?)	
11. Is the Connection Clear? (Could it have been a wireless or cell phone?)	
12. Are There Background Noises?	
<input type="checkbox"/> Street noises (what kind?)	
<input type="checkbox"/> Machinery (what type?)	
<input type="checkbox"/> Voices (describe)	
<input type="checkbox"/> Children (describe)	
<input type="checkbox"/> Animals (what kind?)	
<input type="checkbox"/> Computer Keyboard, Office	
<input type="checkbox"/> Motors (describe)	
<input type="checkbox"/> Music (what kind?)	
<input type="checkbox"/> Other	
13. Call Received By (Name, Address, and Telephone Number): Date Call Received: Time of Call:	
14. Call Reported to:	Date/Time
15. Action(s) Taken Following Receipt of Call:	

Water System Report of Suspicious Activity

In the event personnel from your water system (or neighbors of your water system) observe suspicious activity, use the following checklist to collect as much detail about the nature of the activity.

1. Types of Suspicious Activity:				
Breach of security systems (e.g., lock cut, door forced open)	Changes in water quality noticed by customers (e.g., change in color, odor, taste) that were not planned or announced by the water system			
Unauthorized personnel on water system property.	Other (explain)			
Presence of personnel at the water system at unusual hours				
2. Water System Identification:				
Name:				
Address:				
Telephone:				
PWS Owner or Manager's Name:				
3. Alternate Water Source Available: Yes/No	If yes, give name and location:			
4. Location of Suspicious Activity:				
<input type="checkbox"/> Distribution Line	<input type="checkbox"/> Water Storage Facilities	<input type="checkbox"/> Treatment Plant	<input type="checkbox"/> Raw Water Source	<input type="checkbox"/> Treatment Chemicals
<input type="checkbox"/> Other (explain):				

5. If Breach of Security, What was the Nature of the Breach?

- Lock was cut or broken, permitting unauthorized entry.

Specify location

- Lock was tampered with, but not sufficiently to allow unauthorized entry.

Specify location

- Door, gate, window, or any other point of entry (vent, hatch, etc.) was open and unsecured

Specify location

- Other

Specify nature and location

6. Unauthorized personnel on site?

Where were these people?

Specify location

What made them suspicious?

- Not wearing water system uniforms
 Something else? (Specify)

What were they doing?

7. Please describe these personnel (height, weight, hair color, clothes, facial hair, any distinguishing marks):

8. Call Received By (Name, Address, and Telephone Number):

Date Call Received:

Time of Call:

9. Call Reported to:

Date/Time:

10. Action(s) Taken Following Receipt of Call:

Disclaimer

This document contains information on how to plan for protection of the assets of your water system. The work necessarily addresses problems in a general nature. You should review local, state, and federal laws and regulations to see how they apply to your specific situation.

Knowledgeable professionals prepared this document using current information. The authors make no representation, expressed or implied, that this information is suitable for any specific situation. The authors have no obligation to update this work or to make notification of any changes in statutes, regulations, information, or programs described in this document. Publication of this document does not replace the duty of water systems to warn and properly train their employees and others concerning health and safety risks and necessary precautions at their water systems.

Neither the Association of State Drinking Water Administrators, the National Rural Water Association, the U. S. Environmental Protection Agency, or the Drinking Water Academy, nor its contractor, The Cadmus Group, Inc., assume any liability resulting from the use or reliance upon any information, guidance, suggestions, conclusions, or opinions contained in this document.

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Certification of Completion

A final step in completing the "Security Vulnerability Self-Assessment Guide for Small Drinking Water Systems" is to notify the Mississippi Department of Health that the assessment has been conducted. Please fill in the following information and send a copy of this page to the Mississippi Department of Health. NOTE: You must maintain a copy of this page in your official records.

Public Water

System (PWS) ID: _____

System Name: _____

Address: _____

Town/City: _____ **State:** _____

ZIP Code: _____

Phone: _____ **Fax:** _____

Email: _____

Person Name: _____

Title: _____

Address: _____

Town/City: _____ **State:** _____

ZIP Code: _____

Phone: _____ **Fax:** _____

Email: _____

I certify that the information in this vulnerability assessment has been completed to the best of my knowledge and that the appropriate parties have been notified of the assessment and recommended steps to be taken to enhance the security of the water system. Furthermore, a copy of the completed assessment will be retained at the public water system, in a secure location, for review by the Mississippi State Department of Health when requested.

Signed by: _____

(Please Print/Type)

Signature: _____ **Date** _____

VERY IMPORTANT!!

Mail this completed page to:

**Mississippi Department of Health/Bureau of Public Water Supply
P. O. Box 1700
Jackson, MS 39215-1700**

Section XIV: Mutual Aid Agreement

STATEWIDE MUTUAL AID COMPACT (SMAC) The Statewide Mutual Aid Compact is an agreement between the State and counties and or cities that allows MEMA to assist other counties and or cities affected by natural/man-made disasters. It enables MEMA to ask non-affected jurisdictions to assist with equipment, manpower, etc. to the counties needing aid. It addresses the issues of liability, compensation, supervision and reimbursement in one standard, legally approved document.

The State of Mississippi

STATEWIDE MUTUAL AID COMPACT

(SMAC)

Revised June 2000

THIS AGREEMENT IS ENTERED INTO BETWEEN THE STATE OF MISSISSIPPI, MISSISSIPPI EMERGENCY MANAGEMENT AGENCY, AND BY AND AMONG EACH COUNTY AND MUNICIPALITY THAT EXECUTES AND ADOPTS THE TERMS AND CONDITIONS CONTAINED HEREIN, BASED ON THE FOLLOWING FACTS:

WHEREAS, the State of Mississippi is geographically vulnerable to hurricanes, tornadoes, freshwater flooding, and other natural disasters that in the past have caused severe disruption of essential human services and severe property damage to public roads, utilities, buildings, parks, and other government owned facilities; and

WHEREAS, Section 33-15-19(a) Mississippi Code of 1972, as amended, authorizes the state and its political subdivisions to develop and enter into mutual aid agreements for reciprocal emergency aid and assistance in case of emergencies too extensive to be dealt with unassisted; and

WHEREAS, Section 33-15-1 et seq. of the Mississippi Code of 1972, as amended, the Mississippi Emergency Act of 1995 (the Act) sets forth details concerning powers, duties, rights, privileges, and immunities of political subdivisions of the state rendering outside aid; and

WHEREAS, the Act authorizes the State to enter into a contract on behalf of the state for the lease or loan to any political subdivision of the state any real or personal property of the state government or the temporary transfer or employment of personnel of the state government to or by any political subdivision of the state; and

WHEREAS, Section 33-15-17 of the Act authorizes the governing body of each political subdivision of the state to enter into such contract or lease within the state, accept any such loan, or employ such personnel, and such political subdivision may equip, maintain, utilize, and operate any such property and employ necessary personnel therefor in accordance with the purposes for which such contract is executed, and to otherwise do all things and perform any and all acts which it may deem necessary to effectuate the purpose for which contract was entered into; and

WHEREAS, the Act requires that each municipality must coordinate requests for state or federal emergency response assistance with its county; and

WHEREAS, the Parties to this Agreement recognize that additional manpower and equipment may be needed to mitigate further damage and restore vital services to the citizens of the affected community should such disasters occur; and

WHEREAS, to provide the most effective mutual aid possible, each Participating Government, intends to foster communications between the personnel of the other Participating Governments by visits, compilation of asset inven-

tories (shown as Exhibit B), exchange of information and development of plans and procedures to implement this Agreement;

NOW, THEREFORE, the Parties agree to agree as follows:

SECTION 1. DEFINITIONS

A. "AGREEMENT" means the Statewide Mutual Aid Agreement/Compact. Political subdivisions of the State of Mississippi may become a party to this Agreement by executing a copy of this Agreement and providing a copy with the original signatures and authorizing resolution(s) to the Mississippi Emergency Management Agency. Copies of the agreement with original signatures and copies of authorizing resolutions and insurance letters shall be filed and maintained at the Agency headquarters in Jackson, Mississippi.

B. "REQUESTING PARTY" means the participating government entity requesting aid in the event of an emergency. Each municipality must coordinate requests for state or federal emergency response assistance through its county.

C. "ASSISTING PARTY" means the participating government entity furnishing equipment, services and/or manpower to the requesting Party.

D. "AUTHORIZED REPRESENTATIVE" means an employee of a participating government authorized in writing by that government to request, offer or provide assistance under the terms of this Agreement. The list of authorized representatives for the participating government executing this Agreement shall be attached as Exhibit A, and shall be updated as needed by each participating government.

E. "AGENCY" means The Mississippi Emergency Management Agency.

F. "EMERGENCY" means any occurrence, or threat thereof, whether natural, or caused by man, in war or in peace, which results or may result in substantial injury or harm to the population or substantial damage to or loss of property.

G. "DISASTER" means any natural, technological, or civil emergency that causes damage of sufficient severity and magnitude to result in a proclamation of a Local emergency by a city/county, a declaration of a State of Emergency by the Governor, or a disaster declaration by the President of the United States.

H. "MAJOR DISASTER" means a disaster that will likely exceed local capabilities and require a broad range of state and federal assistance.

I. "PARTICIPATING GOVERNMENT" - the State of Mississippi and any political subdivision of the State of Mississippi which executes this mutual aid agreement and supplies a completed executed copy to the Agency.

J. "PERIOD OF ASSISTANCE" - the period of time beginning with the departure of any personnel and equipment of the Assisting Party from any point for the purpose of traveling to the Requesting Party in order to provide assistance and ending upon the return of all personnel and equipment of the Assisting Party, after providing the assistance requested, to their residence or regular place of work, whichever occurs first. The period of assistance shall not include any portion of the trip to the Requesting Party or the return trip from the Requesting Party during which the personnel of the Assisting Party are engaged in a course of conduct not reasonably necessary for their safe arrival at or return from the Requesting Party.

K. "WORK OR WORK-RELATED PERIOD" - any period of time in which either the personnel or equipment of the Assisting Party are being used by the Requesting Party to provide assistance and for which the requesting Party will reimburse the Assisting Party. Specifically included within such period of time are rest breaks when the personnel of the Assisting Party will return to active work within a reasonable time. Specifically excluded from such period of time are breakfast, lunch, and dinner breaks.

Nothing should be derived from the above statement that excludes Assisting Party personnel from being considered "on the job" for purposes of workers compensation injuries or accidents during these periods.

SECTION 2. PROCEDURES

When a participating government either becomes affected by, or is under imminent threat of, a major disaster, it may request emergency related mutual aid assistance either by: (I) proclaiming a local emergency and transmitting a copy of that proclamation along with a completed Part I Identification of Need (Form REQ-A, Appendix A) to the Assisting Party, or to the Agency, or (ii) by orally communicating a request for mutual aid assistance to Assisting Party or to the Agency, followed as soon as practicable by written confirmation of said request shown as Form REQ-A in Appendix A.

Mutual aid shall not be requested by Participating Governments unless resources available within the stricken area are deemed inadequate by that participating government. Municipalities shall coordinate requests for state or federal assistance with their county Emergency Management Agencies. All requests for mutual aid shall be transmitted by the Authorized Representative or the Director of the Local Emergency Management Agency. Request for assistance may be communicated either to the Agency or directly to an Assisting Party. Requests for assistance under this Agreement shall be limited to major disasters, except where the Participating Government has no other mutual aid agreement based upon Section 33-15-19(a), Mississippi Code, in which case a participating Government may request assistance pursuant to the provisions of this agreement.

A. REQUESTS DIRECTLY TO ASSISTING PARTY: The Requesting Party may directly contact the authorized representative of the Assisting Party and shall provide them with the information in paragraph C below. All communications shall be conducted directly between the Requesting and Assisting Parties. Each party shall be responsible for keeping the Agency advised of the status of the response activities. The Agency shall not be responsible for costs associated with such direct requests for assistance unless it so elects. However, the Agency may provide, by rule, for reimbursement of eligible expenses from the Disaster Assistance Trust fund.

B. REQUESTS ROUTED THROUGH, OR ORIGINATING FROM, THE AGENCY:

The Requesting Party may directly contact the Agency, in which case it shall provide the Agency with the information in paragraph C below. The Agency may then contact other Participating Governments on behalf of the Requesting Party and coordinate the provision of mutual aid. The Agency shall not be responsible for costs associated with such indirect requests for assistance, unless the Agency so indicates in writing at the time it transmits the request to the Assisting Party. In no event shall the Agency be responsible for costs associated with assistance in the absence of appropriated funds. In all cases, the party receiving the mutual aid shall be primarily responsible for the costs incurred by any Assisting Party providing assistance pursuant to the provisions of this Agreement.

C. REQUIRED INFORMATION: Each request for assistance shall be accompanied by the following information, to the extent known:

1. A general description of the damage sustained;
2. Identification of the emergency service function for which assistance is needed (e.g. fire, law enforcement, emergency medical, transportation, communications, public works and engineering, building inspection, planning and information assistance, mass care, resource support health and other medical services, search and rescue, etc.) and the particular type of assistance needed;
3. Identification of the public infrastructure system for which assistance is needed (i.e. sanitary sewer, potable water, streets, or storm water systems) and the type of work assistance needed;
4. The amount and type of personnel, equipment, materials, and supplies needed and a reasonable estimate of the length of time they will be needed;
5. The need for sites, structures or buildings outside the Requesting Party's political subdivision to serve as relief centers or staging areas for incoming emergency goods and services; and
6. an estimated time and a specific place for a representative of the requesting Party to meet the personnel and equipment of any Assisting party.

This information may be provided on the form shown in Appendix A as the form REQ-A , or by any other available means. The Agency may revise the format of Form REQ-A subsequent to the execution of this agreement, in which case it shall distribute copies to all participating governments.

D. ASSESSMENT OF AVAILABILITY OF RESOURCES AND ABILITY TO RENDER ASSISTANCE; When contacted by a Requesting Party or the Agency, the authorized representatives of any participating government agree to assess their government's situation to determine available personnel, equipment and other resources. All participating governments shall render assistance to the extent personnel, equipment and resources are available. Each participating government agrees to render assistance in accordance with the terms of this Agreement to the fullest extent possible. When the authorized representative determines that his Participating Government has available personnel, equipment or other resources, they shall so notify the requesting Party or the Agency, whichever communicated the request, and provide the information on Part II of the REQ-A form. The Agency shall, upon response from sufficient participating parties to meet the needs of the requesting Party, notify the authorized representative of the requesting Party and provide them with the information to the extent known on Part 2 of REQ-A form. The Assisting Party shall complete a written acknowledgment regarding the assistance to be rendered, setting forth the information transmitted in the request, and shall transmit it by the quickest practical means to the Requesting Party or the Agency, as applicable for approval. The form to serve as this written acknowledgment is shown in Appendix A as Form REQ-A.

E. WRITTEN ACKNOWLEDGEMENT -The Requesting Party/Agency shall respond to the written acknowledgment by executing Part 3 of the REQ-A form shown in Appendix A, and returning a copy the Assisting Party by the quickest practical means, maintaining a copy for its file records.

F. SUPERVISION AND CONTROL: The personnel, equipment and resources of any Assisting Party shall remain under operational control of the requesting Party for the area in which they are serving. Direct supervision and control of said personnel, equipment and resources shall remain with the designated supervisory personnel of the Assisting Party. Representatives of the Requesting Party shall assign work tasks to the supervisory personnel of the Assisting Party. The designated supervisory personnel of the Assisting Party shall have the responsibility and authority for assigning work and establishing work schedules for the personnel of the Assisting Party, based on task or mission assignments provided by the Requesting Party and the Agency. The designated supervisory personnel of the Assisting Party shall: maintain daily personnel time records, material records and a log of equipment hours; be responsible for the operation and maintenance of the equipment and other resources furnished by the Assisting Party; and shall report work progress to the Requesting Party.

G. FOOD; HOUSING; SELF-SUFFICIENCY - Unless specifically instructed otherwise, the Requesting Party shall have the responsibility of providing food and housing for the personnel of the Assisting Party from the time of their arrival at the designated location to the time of their departure. However, Assisting Party personnel and equipment should be, to the greatest extent possible, self-sufficient for operations in areas stricken by emergencies or disasters. The Requesting Party may specify only self-sufficient personnel and resources in its request for assistance.

H. RIGHTS AND PRIVILEGES -Whenever the employees of the Assisting Party are rendering outside aid pursuant to this Agreement, such employees shall have the powers, duties, rights, privileges, and immunities, and shall receive the compensation, incidental to their employment as authorized in 33-15-15(b)(2).

I. COMMUNICATIONS: Unless specifically instructed otherwise, the Requesting Party shall have the responsibility for coordinating communications between the personnel of the Assisting Party and the Requesting Party. Assisting Party personnel should be prepared to furnish communications equipment sufficient to maintain communications among their respective operating units.

SECTION 3. REIMBURSABLE EXPENSES

The terms and conditions governing reimbursement for any assistance provided under this Agreement shall be in accordance with the following provisions, unless otherwise agreed upon by the Requesting and Assisting Parties and specified in the written acknowledgment executed in accordance with paragraph 2.D and E of this Agreement. The

Requesting Party shall be ultimately responsible for reimbursement of all eligible expenses. The Assisting Party shall submit reimbursement documentation to the Requesting Party on the forms shown in Appendix B.

A. PERSONNEL - During the period of assistance, the Assisting Party shall continue to pay its employees according to its then prevailing ordinances, rules, and regulations. The Requesting Party shall reimburse the Assisting Party for all direct and indirect payroll costs and expenses including travel expenses incurred during the period of assistance, including, but not limited to, employee pensions and benefits as provided by Generally Accepted Accounting Principles (GAAP). However, the Requesting Party shall not be responsible for reimbursing any amounts paid or due as benefits to employees of the Assisting Party under the terms of the Mississippi Workers' Compensation Act (Section 71-3-1, Mississippi Code) due to personal injury or death occurring while such employees are engaged in rendering aid under this agreement. Both the Requesting Party and the Assisting Party shall be responsible for payment of such benefits only to their own employees.

B. EQUIPMENT - The Assisting Party shall be reimbursed by the Requesting Party for the use of its equipment during the period of assistance according to either a pre-established local or state hourly rate or according to the actual replacement, operation, and maintenance expenses incurred. For those instances in which costs are reimbursed by the Federal Emergency Management Agency, the eligible direct costs shall be determined in accordance with 44 CFR 206.228. The Assisting Party shall pay for all repairs to its equipment as determined necessary by its on-site supervisor(s) to maintain such equipment in safe and operational condition. At the request of the Assisting Party, fuels, miscellaneous supplies, and minor repairs may be provided by the Requesting Party, if practical. The total equipment charges to the Requesting Party shall be reduced by the total value of the fuels, supplies, and repairs furnished by the Requesting Party and by the amount of any insurance proceeds received by the Assisting party.

C. MATERIALS AND SUPPLIES -The Assisting Party shall be reimbursed for all materials and supplies furnished by it and used or damaged during the period of assistance, except for the costs of equipment, fuel and maintenance materials, labor and supplies, which shall be included in the equipment rate established in 3.B. above, unless such damage is caused by gross negligence, willful and wanton misconduct, intentional misuse, or recklessness of the Assisting Party's personnel. The Assisting Party's Personnel shall use reasonable care under the circumstances in the operation and control of all materials and supplies used by them during the period of assistance. The measure of reimbursement shall be determined in accordance with 44 CFR 206.228. In the alternative, the Parties may agree that the Requesting Party will replace, with like kind and quality as determined by the Assisting Party, the materials and supplies used or damaged. If such an agreement is made, it shall be reduced to writing and transmitted to the Agency.

D. RECORD KEEPING - The Assisting Party shall maintain records and submit invoices for reimbursement by the Requesting Party or the Agency using format used or required by FEMA publications, including 44 CFR part 13 and applicable Office of Management and Budget Circulars. Requesting Party and Agency finance personnel shall provide information, directions, and assistance for record keeping to Assisting Party personnel.

E. PAYMENT - Unless otherwise mutually agreed in the written acknowledgment executed in accordance with paragraph 2.I. or a subsequent written addendum to the acknowledgment, the reimbursable expenses with an itemized notice as soon as practicable after the expenses are incurred, but not later than sixty (60) days following the period of assistance, unless the deadline for identifying damage is extended in accordance with 44 CFR part 206. The Requesting Party shall pay the bill or advise of any disputed items, not later than sixty (60) days following the billing date. These time frames may be modified by mutual agreement. This shall not preclude an Assisting Party or Requesting Party from assuming or donating, in whole or in part, the costs associated with any loss, damage, expense or use of personnel, equipment and resources provided to a Requesting Party.

F. PAYMENT BY OR THROUGH THE AGENCY: The Mississippi Emergency Management Agency may reimburse for all actual and necessary travel and subsistence expenses for personnel providing assistance pursuant to the request of the Agency, to the extent of funds available, and contingent upon an annual appropriation from the legislature for such purposes. The Assisting Party shall be responsible for making written request to the Agency for reimbursement of travel and subsistence expenses, prior to submitting a request for payment to the Requesting Party. The

Assisting Party's written request should be submitted as soon as possible after expiration of the period of assistance. The Agency shall provide a written response to said requests within ten (10) days of actual receipt. If the Agency denies said request, the Assisting Party shall then bill the requesting party. In the event that an affected jurisdiction requests assistance without forwarding said request through the Agency, or an assisting party provides assistance without having been requested by the Agency to do so, the Agency shall not be liable for reimbursement of any of the cost(s) of assistance. The Agency may serve as the eligible entity for requesting reimbursement of eligible costs from FEMA. Any costs to be so reimbursed by or through the Agency shall be determined in accordance with 44 CFR 206.228. The Agency may authorize applications for reimbursement of eligible costs from the Disaster Assistance Trust Fund, established pursuant to Section 33-15-301 Mississippi Code, in the event that the disaster or emergency event is not declared pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended by Public Law 100-707. Such applications shall be evaluated pursuant to rules established by the Agency, and may be funded only to the extent of available funds.

SECTION 4. IMMUNITY

To the extent permitted by law, the Parties shall not be liable for actions to the extent provided by Section 33-15-21(a). This immunity may be waived by the Parties in a manner provided by law to the extent that adequate insurance coverage is in effect.

SECTION 5. LENGTH OF TIME FOR EMERGENCY

The duration of such Local emergency declared by the Requesting Party is limited to seven (7) days. It may be extended, if necessary, in seven (7) day increments as specified in 33-15-17(d).

SECTION 6. TERM

This Agreement shall be in effect for one (1) year from the date hereof and shall automatically be renewed in successive one (1) year terms unless terminated upon sixty (60) days advance written notice by the participating government. Notice of such termination shall be made in writing and shall be served personally or by registered mail upon the Director, Mississippi Emergency Management Agency, Jackson, Mississippi, which shall provide copies to all other Participating Parties. Notice of termination shall not relieve the withdrawing Party from obligations incurred hereunder prior to the effective date of the withdrawal and shall not be effective until sixty (60) days after notice thereof has been set by the Director, Mississippi Emergency Management Agency to all other Participating Governments.

SECTION 7. EFFECTIVE DATE OF THIS AGREEMENT

This Agreement shall be in full force and effect upon approval by the participating government and upon proper execution hereof.

SECTION 8. ROLE OF MISSISSIPPI EMERGENCY MANAGEMENT AGENCY

The responsibilities of the Mississippi Emergency Management Agency under this Agreement are to: (1) request mutual aid on behalf of a participating government, under the circumstances identified in this Agreement; (2) coordinate the provision of mutual aid to a Requesting Party, pursuant to the provisions of this Agreement; (3) serve as the eligible entity for requesting reimbursement of eligible costs from FEMA, upon a Presidential disaster declaration; (4) serve as central depository for executed Agreements; and (5) maintain a current listing of participating Governments with their Authorized Representative and contact information, and to provide a copy of the listing to each of the Participating Governments on an annual basis during the second quarter of the calendar year.

SECTION 9. SEVERABILITY; EFFECT ON OTHER AGREEMENTS

Should any portion, section, or subsection of this Agreement be held to be invalid by a court of competent jurisdiction, that fact shall not affect or invalidate any other portion, section or subsection; and the remaining portions of this Agreement shall remain in full force and affect without regard to the section, portion, or subsection or power invalidated.

In the event that any parties to this agreement have entered into other mutual aid agreement, pursuant to Section 33-15-19(a), Mississippi Code, or interlocal agreements pursuant to Section 17-13-1, Mississippi Code, those parties agree that said agreements are superseded by this agreement only for emergency management assistance and activities performed in catastrophic emergencies pursuant to this agreement. In the event that two or more parties to this agreement and the parties wish to engage in mutual aid, then the terms and conditions of this agreement shall apply unless otherwise agreed between those parties.

**THE COUNTY OF PONTOTOC - CITY OF PONTOTOC – TOWN OF ALGOMA –
TOWN OF ECRU – TOWN OF SHERMAN - TOWN OF THAXTON – TOWN OF TOCCOPOLA
DISASTER SERVICES
MUTUAL AID AGREEMENT**

THIS AGREEMENT, entered into by the participating parties hereto;
WHEREAS, such mutual aid agreements are authorized by Title 33 Chapter 15, Title 21 Chapter 19, Title 21 Chapter 21, Title 21 Chapter 25 of the Mississippi Code 1972, Annotated.
NOW THEREFORE, the parties do mutually agree as follows:

SECTION 1: Term: This Agreement shall become effective at 12:01 a.m. on _____, 20__ and shall remain in full force and effect until cancelled by mutual agreement of the parties or by written notice by one party to the other party of the parties by written notice of said cancellation.

SECTION 2: Organization:

A. In the event of a disaster which requires additional aid of equipment and personnel beyond that which each party is able to provide for itself, all parties hereto agree that at the request of any party hereto, the others will loan such equipment and personnel as the respective officials of the lending jurisdiction, in their discretion, shall determine what can reasonably be spared at the time without placing their own community in jeopardy.

B. Since time is of the essence during emergencies as herein referred to, the authority to dispatch equipment and personnel or call for aid in accordance with the terms and conditions of the Agreement shall be delegated especially to the chief official or acting chief official of the parties hereto.

C. The lending party shall be responsible for the deliver of said equipment and personnel to the location specified by requesting party.

D. Upon arrival at said location, the officer in charge of the said equipment and personnel shall report to the officer in charge at the location of the disaster who shall assume full charge of all operations at a disaster or emergency location.

E. All equipment and personnel loaned hereunder shall be returned upon demand of the lending party or when released by the requesting party upon the cessation of the emergency.

SECTION 3: Finance:

A. All parties agree to loan equipment and personnel, at no charge, to requesting parties during local emergencies.

B. During presidential declared disasters, the current FEMA equipment rate chart and personnel pay rates will be used to determine rate of compensation to lending party.

SECTION 4: Waiver of claims: Each party hereto hereby waives all claims against the other for compensation of any loss, damage, personal injury, or death occurring in consequence of performance or either party, their agents, or employees hereunder.

SECTION 5: Integration: This Agreement contains the entire understanding between the parties, and there is no understanding or representatives not set forth or incorporated by reference herein. No subsequent modifications of the Agreement shall be of any force or effect unless in writing signed by the parties.

SECTION 6: Compliance with Laws: In the performance of this Agreement, each party shall comply with all applicable Federal, State, and Local laws, rules, and regulations.

SECTION 7: Severability: Should any provision of the Agreement be declared invalid for any reason, such declaration shall not affect the validity of other provisions, it being the intent that the provisions shall be severable and remain valid.

IN WITNESS WHEREOF, this Agreement has been executed the day and year written above and executed through the President of the Pontotoc County Board of Supervisors, Mayors of Algoma, Ecrú, Pontotoc, Sherman, Thaxton, and Toccopola.

COUNTY OF PONTOTOC

By _____
President, Board of Supervisors
Attest:
By _____
Chancery Clerk
Approved As To Form:
By _____
County Attorney

TOWN OF ALGOMA

By _____
Mayor
Attest:
By _____
City Clerk
Approved As To Form:
By _____
City Attorney

TOWN OF ECRU

By _____
Mayor
Attest:
By _____
City Clerk
Approved As To Form:
By _____
City Attorney

CITY OF PONTOTOC

By _____
Mayor
Attest:
By _____
City Clerk
Approved As To Form:
By _____
City Attorney

TOWN OF SHERMAN

By _____
Mayor
Attest:
By _____
City Clerk
Approved As To Form:
By _____
City Attorney

TOWN OF THAXTON

By _____
Mayor
Attest:
By _____
City Clerk
Approved As To Form:
By _____
City Attorney

TOWN OF TOCCOPOLA

By _____
Mayor
Attest:
By _____

City Clerk
Approved As To Form:
By _____
City Attorney

The above mutual aid agreement was composed and submitted to the various local governments by the Pontotoc County Emergency Management Agency.

IN WITNESS WHEREOF, the parties named herein have dully executed this Agreement/Compact on the date set forth below:

ATTEST:
CLERK OF THE BOARD

BOARD OF SUPERVISORS
OF PONTOTOC MISSISSIPPI
(County)

By _____
Chancery Clerk

By _____
President

APPROVED AS TO FORM:
County Attorney

Date:

By: _____

ATTEST:
CITY CLERK

TOWN OF ALGOMA
MISSISSIPPI

By _____

By _____
Title:

APPROVED AS TO FORM:
City Attorney

Date:

By:

ATTEST:
CITY CLERK

TOWN OF ECRU
MISSISSIPPI

By _____

By _____
Title:

APPROVED AS TO FORM:
City Attorney

Date:

By:

ATTEST:
CITY CLERK

CITY OF PONTOTOC
MISSISSIPPI

By _____

By _____
Title:

APPROVED AS TO FORM:
City Attorney

Date:

By: _____

ATTEST:
CITY CLERK

TOWN OF SHERMAN
MISSISSIPPI

By _____

By _____

Title:

Date:

APPROVED AS TO FORM:
City Attorney

By: _____

ATTEST:
CITY CLERK

TOWN OF THAXTON
MISSISSIPPI

By _____

By _____

Title:

Date:

APPROVED AS TO FORM:
City Attorney

By: _____

ATTEST:
CITY CLERK

TOWN OF TOCCOPOLA
MISSISSIPPI

By _____

By _____:

Title:

Date:

APPROVED AS TO FORM:
City Attorney

By: _____

STATE OF MISSISSIPPI
MISSISSIPPI EMERGENCY MANAGEMENT AGENCY

By: _____
Director

Date:

Section XV: Community Relations and Customer Service

Communicating Your Message ■

The Importance of Public Relations

It is necessary that all public water systems communicate with their members. Not only do customers want to know what is occurring with their water systems, but it's also the law. The 1996 Amendment to the Safe Drinking Water Act requires water systems to communicate with their customers; all public water systems, regardless of size, are required to inform their customers of the content of their water.

Public relations, or community relations, uses communication as a tool to link the water system to its customers. By establishing a community relations program, you can increase the public's awareness of the system and create a positive image of it. However, developing and maintaining a positive public image for the system takes time.

You must remember that community relations is an ongoing process; it never stops. Once your system

gains the support of the community, board members must work hard to keep maintain support. Once you have the community's approval, the community be more likely to support your system during new projects, rate hikes, and disasters. Also, negative news will not affect the water system as much if the community already has a favorable view toward the system.

Your water system exists in order to provide a needed service to your community. In providing this service, your system must use public relations to

- build a relationship between the system and the community.
- improve communications between system employees and customers.
- strengthen the relationship between the system and the local government.
- educate the community about the importance of water, water use, and water conservation.
- minimize rumors and other negative news or information; and
- inform the public of any precautions that need to be taken.

You can judge the quality of your system's community relations program by answering the following questions.

■ Community Relations Assessment ■

1. How involved with the community is your water system?
not at all somewhat very
2. How often does your water system inform the community about board meetings?
never sometimes always
3. Does your water system keep the community informed on what it is doing?
never sometimes always
4. Does your water system have a designated spokesperson?
yes no
5. What type of communication does your water system use to get out its message? Check all that apply.

<input type="checkbox"/> newspaper	<input type="checkbox"/> television
<input type="checkbox"/> radio	<input type="checkbox"/> newsletter
<input type="checkbox"/> bill stuffer	<input type="checkbox"/> letter
<input type="checkbox"/> informational fact sheet	<input type="checkbox"/> brochure
<input type="checkbox"/> meeting	<input type="checkbox"/> none
<input type="checkbox"/> other _____	

Gaining Community Support

A water system should strive to gain and maintain its community's confidence and support. To accomplish this goal, you need a communications strategy. You may ask, "Why bother with a communications plan?" The answer is simple: to make sure your communication activities help you reach your goals and objectives. Otherwise, you may be spending time and money doing things that don't help you get where you'd like to be going.

When considering a public relations campaign to communicate your message and enhance your image in the community, think about answers to the following questions:

- What is public relations?
- What is the public?
- What audiences do you want to reach?
- What do you want to say?
- How do you send your message?
- When do you send your message?
- What are your local media?
- Who are your local media gatekeepers (people who control access)?

The following questions will help you develop a mission statement. It is vital that each board member consider the following questions before beginning the planning process:

1. Why does the water system exist?

2. What do you hope to accomplish with your organization?

3. If your water system stopped all activity tomorrow, what difference would it make? To whom?

4. After answering the above questions, develop a mission statement for your water system.

Our mission statement:

Your water system should use the following steps to develop an effective public relations program:

- Clarify the mission
- Current situation analysis
- Goals and objectives
- Communications audit
- Communications resources
- Identify target audiences
- Strategies for reaching target audiences
- The communications plan
- Implementation

Clarify the Mission

Start the process by reviewing your water system's mission. Before any effective communications planning can take place, all board members and employees must have a clear understanding of your system's mission. If you don't know where the organization is headed, it is impossible to help it get there. If your system already has a mission statement, now is a good time to review it and revise it if necessary.

Situation Analysis

Consider the direction your system is headed by analyzing current and anticipated concerns and opportunities.

The following questions are important to consider before planning an effective communications program. Make short notes to summarize the main points.

1. What are your water system's strengths and weaknesses?
2. How does your local political climate affect your system?
3. What are the major problems and opportunities affecting activities and the status of your water system?
4. What is the population served by your system?
5. How is it changing?
6. What are the social and economic conditions in your community?
7. How will support of your system change in the foreseeable future?

Determine the Image You Want To Project.

Analyze the current situation, and think about your goals and objectives. Determine the image your system wants to project. You can later use that ideal as a yardstick once you solicit opinions on the system's perceived image.

When thinking about a desirable image, consider what the public wants from your water system. Then tell the stakeholders (all target audiences) what you are doing to accomplish these things.

For stakeholders to have confidence in your system, you must assure them that their water treatment meets or exceeds all standards, resulting in water that is safe and of a high quality. Stakeholders must be favorably impressed with the service the water system provides. Customers must view their charges as fair and accurate. They must believe the water system's employees are qualified, knowledgeable, competent, friendly, and polite. They must also know that the board of directors operates the water system in a professional manner. They must consider that the water system communicates well with them.

Your system needs to have an excellent public image within the community in order to accomplish its goals. If the water system maintains a positive image, the community will support it when major improvements and purchases are needed. Customers will more likely understand that the changes are necessary to maintain high-quality water.



Goals and Objectives

When building the mission statement, situation analysis, and the image you want to project, you should outline the major goals and the objectives for your system. Goals are general outcomes desired; they are "where you want to go." Objectives are specific means of achieving the goals; they are "how you will get to" your goals.

This is the time for the water system to decide the direction it will take. What does it want to accomplish? The water system must stay focused on its major goals such as raising awareness of the system, having an excellent image in the community, and providing excellent service.

Objectives are helpful for monitoring progress. If the water system has a clear idea of its game plan, it can look back later to see if it has been achieved. Objectives must be specific, achievable, and measurable. Make sure that your system does not set objectives that cannot be reached.

The board should include both short-term and long-term objectives. Short-term objectives can be accomplished relatively quickly, usually within 1 year. Long-term objectives generally take longer than 1 year to accomplish.

You may need to develop many small "stepping stones" to aid in accomplishing your long-term objectives. Accomplishing these small stepping-stone objectives will help keep motivation high. For example, if your system wants to add a new storage tank, you may want to break that long-term objective into parts, such as getting bids one month and choosing suppliers another month. Small steps leading to a bigger goal may help the water system accomplish its purposes more easily.

List your ideas of goals and objectives in the space provided below. Remember to make objectives specific.

Goals

Objectives

Goals	Objectives

Communications Audit

Take a look at what you currently are attempting to do in communicating the message of your system.

1. Briefly list the current communications activities supporting your water system.

2. How are these efforts being evaluated?

3. What evaluation techniques can be used in the future?

3. What are the strengths and weaknesses of your communications efforts?

Financial Resources

1. What is the budget for a communications plan?

2. Are there any opportunities for other funds?

Physical Resources

1. What equipment is available to your organization?

2. What are the top priorities for proper equipment?

Media Outlets and Other Resources

Weekly newspapers

Daily newspapers

Radio stations

Television stations

Local schools

Local civic organizations

Identify Target Audiences

Brainstorm about who your various target audiences, or stakeholders, are. It may be helpful to think of them in one of these categories: decision makers and influencers (health department and regulatory agencies; government officials), customers (water system users), internal (water system employees and board members), and others. Now think about why it is important to communicate with each of the target audiences you've identified and what you want to happen as a result of communicating with them.

Your organization has many different potential audiences. Each group requires a slightly different communications approach and must be considered separately. Be specific. There is no such thing as the general public: To say you want to reach everyone is to admit you plan to reach no one. For communications to be effective, you must know whom you want to reach, what you want to say and accomplish, and what you can tell your audience is in it for them.

After identifying the target audience, get a clear picture of why you want to communicate with this audience. Be very honest. This is only for your internal use. You may say things such as, "To get more money" or "To stop their attack on us."

Next, determine the audience's present state of mind. "They don't even think about us." "They confuse us with other utilities." "They are angry about the issue we're dealing with." "They like our system and just need to be reminded to support us."

Assess the Water System's Current Image Among Stakeholders. To judge your target audiences' present state of mind and to determine how effective your cur-

rent communications efforts have been, you must look at the system's current image among its stakeholders. How does the community view the water system? A water system's stakeholders must hold a favorable image or they will not support the system.

To determine an accurate perception of the water system, you must obtain the views of all your target audiences. There are several methods a water system can use to learn its stakeholders' views, including informal personal interviews, telephone interviews or surveys, and written surveys.

Informal contacts. You can informally ask people what they think of the water system. Often customers as well as others will "open up" more in an informal situation when asked their opinions.

Surveys. You can learn the audiences' views of the water system through a customer survey. This survey may be conducted by telephone, or it may be distributed in written form by mail or picked up by customers in the water system office. If a water system designs its survey properly, it can be used for several years for budgeting, planning, and customer relations.

Even though a survey cannot tell a water system all the details that are needed, it can provide basic information on how the customers currently view it. Review the information after you gather and compile it. You should be able to get an idea of how the community feels about your water system.

Telephone contacts can be made to determine the public's view of the water system. When using the phone to conduct an interview or a survey, remember to use telephone etiquette.



Look at the following sample survey. It may be used for telephone surveys or for written surveys.

■ Water System Survey ■

- 1. How would you describe your monthly bill charges?
low average high

- 2. How would you describe the accuracy of your water bills?
poor fair good very good excellent

- 3. How would you describe the ease of understanding your water bills?
poor fair good very good excellent

- 4. How would you describe the quality of your water?
poor fair good very good excellent

- 5. How would you describe the service of your water system?
poor fair good very good excellent

- 6. How well does your water system keep you informed on current news and activities pertaining to the system?
poor fair good very good excellent

- 7. How would you describe the image of your water system?
poor fair good very good excellent

- 8. How would you improve your water system?

Determine Desired Results: The Message

Now, determine exactly what you want to be the result of your communications. This is critical to effectively analyze the entire communications plan. If you don't have a clear picture of exactly where you want to go, you never will know when you have succeeded. State this outcome in definite, measurable terms, if possible.

Next, write the message you actually will try to convey to the audience. You may never really say these exact words to your audience, but until you know how to answer the audience's unvoiced question "What's in it for me?" you cannot prepare an effective communications plan.

Based on your understanding of the audience, its habits for receiving information, your objectives, and the level of commitment you want to get, select the form of communications best suited to your needs. Read the following explanation of an effective way to select a form of communications. Then complete the "Strategy for Reaching Target Audiences."

By communicating with a target audience, you can

- inform people (create awareness or increase their level of awareness)
- influence their attitudes (reverse unfavorable attitudes or strengthen favorable attitudes)
- influence their behavior (reinforce or change their commitment to act)

Generally speaking, four forms of communications can be used:

- mass media (including news releases, TV, radio)
- targeted media (including direct mail, periodicals, newsletters)
- community and social gatherings (including public meetings and special events)
- one-on-one contact (including personal visits, personal phone calls)

Also, consider the role that technologies (such as teleconferencing, interactive video, CD-ROM, and computer networks) could play in your communications plan.

When selecting the most resource-effective form of communication to use for a particular target audience, you need to consider its state of mind and what you want to achieve. For example, if you want to achieve awareness among large audiences, mass media is the best form of communication. On the other hand, if you want to achieve a commitment, the best form of communication is one-on-one contact.

Some communication is through the written word, whereas some of it is through the spoken word. Whichever way information is presented, you should always choose words carefully.

Written Communications. The water system may use many forms of written communication to get its message to the community it serves. Listed next are some of the types:

Information Sheets. Basic information could include the history of the system, water sources, and the amount of water produced. Tips on water conservation and other topics would be of interest to many customers. The American Water Works Association provides many low-cost informational pieces ("bill stuffers") that could be included with water bills. Its address is included in the References section.

President's Letter. The president of the board may write a letter that includes the present status of the water system as well as future expectations. Major accomplishments can be listed as well. All that is required for this low-cost promotional item is letterhead and a message.

Brochures. Another way to spread the water system's message is through the use of brochures. A brochure can answer frequently asked questions. A brochure for a new-customer checklist could include the amount of the deposit and the requirements for proof of identification and proof of residence. Another brochure could be a water-quality report, which could include tests on the water and the results, as well as information on where the water comes from. Information on closing an account, such as how long it takes to get back the deposit and when the meter will be shut off, could be used in a brochure. A sample bill could be used in a brochure that informs customers how to read a bill and how the bill is generated.

Newsletters. A newsletter, with the water system logo, can be used to inform the community about the good work the water system is doing to provide safe and clean water. It could include water system news and community news, citing recent accomplishments of the water system and its employees.

Press Releases. A press release is a short news article about a particular newsworthy event. Information such as rate increases and interruption of service could be included. A press release should contain the following information: name of the water system, address, phone number, and contact person; release date; and critical event information, such as **what** the event is, **who** is

involved with the event, **where** and **when** the event will be, and **how** the community can participate in the event. Any further supporting information should also be included. The supporting information reinforces the critical information.

Consumer Confidence Reports. All public water systems, regardless of size, have to provide their customers with a consumer confidence report. This report is required by the 1996 Safe Drinking Water Act Amendments. Although required by law, the report gives a water system an excellent opportunity to improve its community relations program. A consumer confidence report should include information on the source of the water, a list of all contaminants that the water system tests for, a list of the contaminant levels found in the water, the violations of contaminant levels, the health concerns of the exceeded levels, and definitions of terms. A consumer confidence report can include information about improvements that have been made and future projects of the water system. A system can also tell its customers about its goals and can stress it is providing clean, safe water. Consumer confidence reports have unlimited possibilities for strengthening a system's community relations program. Try to develop a report that has information the customers will be interested in.

Several examples of these written materials can be found in the Appendix, the last part of this manual.

Spoken Communication. Spoken communication can be through informal contacts that are one-on-one, or they may be through formal presentations at public community meetings. Oral communication may also be over the telephone.

Presentations. Make sure your speech fits your audience. For example, if you are talking to customers, you probably would avoid technical terms they might not understand; however, if you're talking to a group of engineers, technical terms might be appropriate.

If you are talking to customers in an informal setting, you could sit while speaking to them. If you are giving a formal presentation, on the other hand, you would stand when speaking to a group.

Whenever you are communicating, remember that your appearance, hand gestures, eye contact, and facial expressions are all part of the message you are sending.

Telephone Contacts. Sometimes the first contact the water system will have with a customer is by telephone. The telephone is a useful tool that can improve the water system's public relations program. This first contact can form a lasting impression of the water system.

Using the following tips while making telephone contacts should help ensure a positive image of the water system:

- Answer the phone in a timely manner, usually within four rings.
- Identify yourself to callers.
- Use the caller's name. (Jot it down if you need to.)
- Listen closely to the other person. (You may be able to detect the caller's tone of voice.)
- Concentrate on the call. (Eliminate distractions; do not conduct side conversations.)
- Smile through the phone. (This technique projects a pleasant tone.)
- Ask permission before putting a person on hold. (Never keep someone on hold for extended periods; keep the caller informed on your progress.)
- Don't make the caller feel he or she has interrupted you.
- If you tell someone you will call back, make sure you do it.
- Thank the caller.

Electronic Communication. Today's technologies provide for many new types of communication that are unique in themselves, but combine many of the attributes of one-on-one conversations, written communications and telephone communications. While some of these methods are currently fairly new and perhaps unfamiliar to many people, there are several that have been utilized in many situations and would be familiar to most water system customers.

E-mail. E-mail is a ubiquitous form of communication that is increasingly being used for mass notices. Effective e-mail systems can be free or can cost several hundred dollars. "Standard" messages are best used for notices or warnings while "HTML" messages can be used for letters, features, highlights, and meeting agendas. While there are e-mail accounts that are free and available to everyone, entity related domains are more professional (ex: joe.smith@watersystem.com). Domains, obtained from internet service providers, are relatively inexpensive and provide the basis for websites and blogs.

In order to be effective, customer e-mail addresses must be collected from the system's customers and every effort must be made to keep these e-mails confidential. Innovative tools that are based on e-mail include client groups and listserves. These tools can be used to maintain the recipient's confidentiality. If these types of tools are used, make sure that an easy method for customers to "unsubscribe" or not participate is provided.

Websites. Having a website provides a way for customers to obtain information and interact with the utility at all times. Anything and everything can and should be posted: bylaws, director/employee profiles, expansion/construction updates, payment methods, CCRs, rates, as well as anything described in the Written Communications section above. Website programming can be moderately expensive; in most cases, you get what you pay for. There are some free hosting sites, but an entity-based domain is required for a professional appearance. Building a relationship with a skilled programmer is important.

Blogs. Blogs are much like websites, but they are much easier to program and fill with content; the premier blog service is blogspot.com. Usually blogs are maintained by someone who posts regular entries of text, web pages, and media related to its topic; many blogs provide commentary or news about a particular subject. There are ready-made templates available for blogs, but blogs can also be customized to some extent. All media can be posted including pictures, videos and text. Most blogs are interactive and allow viewers to post comments. Blogs can be used to enhance communication in a corporation, and also, for marketing, branding, or public relations purposes. Blogs often feature advertisements to either financially benefit themselves or to promote their favorite causes. There are also fake blogs that companies create as a marketing tool to promote products.

Facebook. Facebook is a social network with 728 million daily users (1/29/14). Facebook incorporates many of the features of blog, a website, e-mail and Twitter and provides an “opt-in” method of gaining information. Content on Facebook must be posted in a professional manner; organizational pages should be used for organization businesses. The key to Facebook is to get other users to “like” your page which can be accomplished through the posting of relevant and valued material.

In the same vein as having a single spokesperson for the water system, there should be one person or a small committee appointed to post content. Notices, updates, profiles, outages, etc., can all be useful in attracting followers. Facebook pages allow businesses and followers to post pictures and comments to share with the other people involved with a page. Starting with few followers can be discouraging. Constantly monitor followers’ comments and likes to attract more people to your page. The learning curve for effectively using Facebook is fairly short, but would be beneficial if this a tool that the system is considering incorporating into its community relations/ communications plan. Approximately 80% of American businesses use Facebook.

Twitter. Twitter is an information network designed to share short bits of information very quickly. Each short bit of information is provided in 140 character bursts called “tweets”. Because of the short messages, the use of products are explained in ways that followers are more likely to read. Twitter allows companies to promote products on an individual level, and is a great way to share website postings, typically through a free website service called Tinyurl.com.

Twitter is a good way to gather market intelligence and insights and build relationships with people who care about your company. Twitter allows entities to share photos, ask and answer questions, announce events and share general knowledge about operations, marketing and service activities. This interaction can create loyal connections between products and individuals and can also lead to larger advertising opportunities. 45% of businesses use Twitter as a form of intensive communication with their customers. Eighty-three percent of business Twitter users say they would recommend Twitter to other small to medium sized businesses.

YouTube. YouTube is a video posting website that hosts a variety of videos made by camcorders, flip cams, digital cameras, etc., and can be posted for general viewing. Appropriate videos could be of board meetings, construction/expansion projects, plant renovations or service and line expansions. Knowledge of rudimentary video editing software would be useful. Links to YouTube videos can be sent out through other social media or included on bills.

Communications Between Customers and the Water System. Customers are an important group to the water system because the water system cannot operate without them. Because customers are so important, your water system should keep its customers informed about changes that will affect them. The next section, *Customer Service*, lists changes that customers need to be informed about.

Treating new customers well will make a positive first impression. In providing exceptional service to new customers, the ground work is laid for a lasting relationship.

Employees and board members of the water system should understand the message and the image the system wants to convey. Customers see employees on a day-to-day basis. Employees should dress professionally and abide by all safety regulations. Employees, as well as board members, should be knowledgeable about the water system and should be able to answer simple questions by people in the community.

Working With the Media. The media can be a powerful resource for a water system. Most people watch television, listen to radio, or read a newspaper. When using the media, make sure the story is interesting and has an effect on the community.

The water system's spokesperson should build a strong relationship with TV and radio stations and with newspapers. A water system is only as good as the community sees it to be. To build rapport, the water system spokesperson and the media must trust and respect each other.

Make sure the water system's spokesperson presents a professional image when being interviewed. In an interview, the spokesperson must be prepared; speak in everyday language, not use technical terms or jargon; and answer questions fully and truthfully. If the

spokesperson does not know an answer, he or she should admit it but offer to find out the answer and follow up with the reporter. Never argue with a reporter for any reason.

Strategies for Reaching Target Audiences

Think about what is the best way to communicate with your target audiences—both in terms of the benefits you can stress and the forms of communication that will be most effective, given your resources.

The next four worksheets will help you prepare to develop the communications plan. List all the possible audiences within the four designated groups.

Strategies for Reaching Target Audiences

1. Decision makers and those who influence decision makers (health department; government regulators or officials)

Target audience (Specific groups you want to reach)	
Objectives (Why it is important to communicate with them?)	
Status (Audience's current state of mind)	
Intended outcome (Response you intend to elicit)	
Form of communications (Resource-effective media)	
Target audience (Specific groups you want to reach)	

Strategies for Reaching Target Audiences

2. Customers or users (those who benefit from your water system)

Target audience (Specific groups you want to reach)	
Objectives (Why it is important to communicate with them?)	
Status (Audience's current state of mind)	
Intended outcome (Response you intend to elicit)	
Form of communications (Resource-effective media)	
Target audience (Specific groups you want to reach)	

Strategies for Reaching Target Audiences

3. Internal (water system board members, operator, engineer, manager, and other employees)

Target audience (Specific groups you want to reach)	
Objectives (Why it is important to communicate with them?)	
Status (Audience's current state of mind)	
Intended outcome (Response you intend to elicit)	
Form of communications (Resource-effective media)	
Target audience (Specific groups you want to reach)	

Strategies for Reaching Target Audiences

4. Others

Target audience (Specific groups you want to reach)	
Objectives (Why it is important to communicate with them?)	
Status (Audience's current state of mind)	
Intended outcome (Response you intend to elicit)	
Form of communications (Resource-effective media)	
Target audience (Specific groups you want to reach)	

The Communications Plan

Match the communications strategies you've outlined for reaching target audiences with the goals and objectives established for your system. The plan should cover a specific time frame. See if there are any goals and objectives you need to add to address the needs of a special audience, or if there are any target audiences and strategies you need to develop to meet unaddressed goals and objectives.

The Communications Plan 1. Decision makers and those who influence decision makers	
Goal	
Objective	
Target Audience	
Communication Strategy	

The Communications Plan
2. Customers or users

Goal	
Objective	
Target Audience	
Communication	Strategy

The Communications Plan
3. Internal

Goal	
Objective	
Target Audience	
Communication	Strategy

The Communications Plan
4. Others

Goal	
Objective	
Target Audience	
Communication	Strategy

Implementation

Planning is no good without follow-through. In large organizations, a specific work group is designated to address the who, what, when, where, and how of the agreed-upon communications strategies. All water system employees will be affected by any organization-

wide emphases. You should take into account your system's specific skills and resources, and then assign specific tasks. Establish priorities based on resources and plan evaluations.

■ **Community Relations Review** ■

1. List reasons why community relations is important to a water system.
2. What are the steps for developing an effective community relations program (communications plan)?
3. List the characteristics that a water system's spokesperson should have.
4. List the resources that a water system could use to deliver its message.

Please fill out the customer service assessment below. After completing the assessment, you will be able to judge the quality of your system's customer-service program.

■ Customer Service Assessment ■

1. Describe a typical customer of your water system.
2. How large is the area that your water system serves?
3. How many customers does your water system serve?
4. Does your system have a written policy that lists the steps a customer may take if he or she has a complaint? If so, what are the steps?
5. Who is responsible for handling customers at your water system?
6. What are some bad experiences you have had with customers?

■ Customer Scenarios ■

Two difficult customer situations are presented below and on the next page. Please read the situations and answer the questions that follow. Keep in mind that the questions do not necessarily have a right or a wrong answer. These questions are intended to help you strengthen your customer-service skills. After you finish the questions, discuss your answers with another board member so you can see how he or she would handle the same situations.

Customer Scenario Number 1

Mr. Hereford has just received a turn-off notice because his bill has become delinquent. After reading the notice, Mr. Hereford calls Bobby, who is a manager of the water system.

Mr. Hereford: What is this? Your water system says my water is going to be turned off in 1 week if I don't pay this bill. My water can't be turned off because my three kids need it.

Bobby: I'm sorry to hear that you are having financial troubles, Mr. Hereford. We can try to help you by allowing you to pay on a fee schedule to avoid having to turn off your water.

Mr. Hereford: The only problem is that I have no money at all. I still would not even be able to pay the bill on the fee schedule. Can't you just let this bill slide by and I will pay the next one?

Bobby: I really wish I could do that, Mr. Hereford, but that goes against company policy and that would also be unfair to our other customers. If we started doing that, other customers' rates would have to be raised to cover the losses. We would be happy to work out some kind of payment schedule with you. You could also try calling some local agencies such as the United Way or the Salvation Army. They may be able to assist you.

Questions:

1. Do you think Bobby provided good customer service to Mr. Hereford? Why or why not?

2. How would you have handled Mr. Hereford differently?

The Importance of Customer Service ■

The most important people in the world to a water system board member are the water system customers. The primary reason a water system exists is to provide water service to its users, who in turn provide the income to the water system to cover the costs of delivering that water service.

Responding to Customers

Dissatisfied customers can hinder your water system. A survey completed by the Department of Consumer Affairs discovered that approximately 70 percent of customers will support you if you solve their problems to their satisfaction. In most instances, the customer only needs to be informed about the situation and told what you as a board member will do in order to solve the problem.

Word-of-Mouth Responses. Most information is spread by word of mouth. Statistically, customers who have had a bad experience and who remain dissatisfied with the water system will normally tell 11 other people. These 11 individuals will usually tell 5 more people. As you can see, a snowball effect can occur from just one dissatisfied customer. This one bad experience can result in about 67 people talking negatively about your water system.

Pleasant experiences do not have the same effect. Only about half as many customers tell others about their good experiences. People take good service for granted. Customers expect consistent, excellent service. In general, a very good experience will lead a customer to spread the information about your service to approximately five others. These five individuals then tell at least two more.

As you can see, your water system must strive to maintain excellent customer service, because a few bad experiences can hinder growth. Customers with bad experiences will not support your system. A water system that provides excellent customer service will maintain a high image because of excellent word-of-mouth comments from customers. How you handle disgruntled customers tests your customer-service expertise.

Skills for Building Good Customer Relationships

As a board member, you set an example for your water system to follow. To be an effective board mem-

ber, you need skills to develop a good customer-service relationship with your water system users. These skills include the following:

- Possessing a positive, caring attitude
- Communicating effectively
- Satisfying customers
- Following up on problems

Positive Attitude. As a board member, customer service begins with you. Employees in the water system follow your lead about customer service. Water system users look to you when they have questions or problems.

It is impossible to eliminate all problems with water system users, but try to keep your approach positive. A positive attitude must be maintained to show customers that you care.

If you have the attitude that customer service skills are needed only when dealing with difficult customers and complaints, you will not be effective. Water system customers may contact you for reasons other than to complain. They may want information about the water system, or they may want to give you suggestions. Someone may even call to thank you for excellent service.

Effective Communication. The second skill that you need to possess for maintaining excellent customer service is effective communication. Remember that your job as a board member is to serve the water users in your district. In order for you to communicate well, you must learn to listen; good communication begins with listening. You must be willing to listen with an open mind to complaints as well as to questions and suggestions. Communication is a two-way process between you and the water system users.

You communicate with your customers through your communications strategy plan (see previous section). Maintaining regular contact with water system users through “bill stuffers,” newsletters, and press releases builds support with the community for your water system.

Customer Satisfaction. The third skill needed to maintain exceptional customer service is the ability to satisfy the customers. Because you are a board member, water system users look to you to help them solve their problems. You must be able to do the “right things right the first time.”

Most customers will forgive and forget if you take care of their problems quickly. Customers become irritable when their problems take a long time to be resolved.

From time to time, you will encounter dissatisfied, even irate, customers. Some customers complain only about serious problems, whereas other customers complain about even minor misunderstandings. If you are a new board member, you also may inherit negative attitudes from some customers.

Never let a customer think you are unconcerned with his or her problem or deny that a problem exists. If you do, the situation will only worsen. If a customer thinks he or she has a problem with the water system, then you have a problem. If a customer becomes irate, remain calm and let him or her cool down. The customer's anger and frustration probably has built up, making the problem seem worse than it may actually be. If you can eliminate the anger, a customer's complaint usually becomes merely a request. As a board member, try to help customers remain calm so you can find a satisfactory solution. Cool heads usually prevail over ill-tempered ones.

Timely Follow-Up Response. You must be able to follow up with the customer after he or she initially contacts you with a problem. Your response shows the customer that you care and that you want to make sure he or she is satisfied. The customer must feel that customer satisfaction is one of your top priorities.

After the first meeting, send a letter that outlines the details of the agreed-upon solution. Then follow through on what was promised. After about a week, call to see if the customer is satisfied with the results. Also, reassure him or her that you appreciate his or her business and patience. Mention that you are available whenever problems or questions arise.

Always strive to deliver fast, dependable service; if you cannot deliver timely service, let the customers know why you cannot. Emergency situations do arise that prevent prompt attention to problems, but customers are usually understanding if they are told the truth so they know what to expect.

For customers who make unrealistic requests, offer alternative solutions. If the solution cannot be handled in a timely manner, at least keep the customer informed on your progress. Always be honest with customers. Never make promises you cannot keep. Broken promises only create more problems.

Applying the Golden Rule. Customer-service skills are easy to master if you put yourself in the place of the customer. Keep this in mind: How do I like being treated? Almost everyone likes to be treated as though he or she is the most important person in the world.

Valuing Your Customers

Use the following principles when dealing with your customers:

- Make customers feel welcome in the water system office, at board meetings, and at other water system functions.
- Make your customers feel important and let them know you respect them.
- Give consideration to customers' ideas and suggestions.
- Listen carefully to customers' problems to understand their points of view.
- Don't let anything interfere with your serving your customers.
- Ask nonthreatening and nondefensive questions about their problems.
- Give your customers the individual and undivided attention they deserve.
- Don't take it personally when customers are unhappy. They are attacking the quality of the water system's service, not you.
- Be a partner with customers in solving their problems.
- Get to know customers by their names.
- Ask what would satisfy them in solving their problems.
- Correct their problems as quickly as possible.
- Apologize to customers for their inconvenience.
- Reassure customers by letting them know you are dedicated to customer service.
- Thank customers for their input.

Situations for Using Customer-Service Skills

Water systems should inform their users when the water service may be changed or affected. Explain that the reason for the changes is to improve the overall quality of the current system. Customer-service skills benefit a water board member when dealing with the following situations:

- Unhappy customers
- Interruption of water service
- Repairs to the water system
- Changes in taste and pressure
- Rate increases
- Unusual findings from testings
- Collection of water bills
- Water rate disputes
- Water leaks
- New projects

Section XVI: Contacts

Important Contact Information for Mississippi Water Boards

REGULATORY AGENCIES

Mississippi State Department of Health, Bureau of Public Water Supply

Address: P.O. Box 1700, Jackson, MS 39215-1700
Telephone: (601) 576-7518
Fax: (601) 576-7822
Website: www.msdh.state.ms.us

Mississippi Department of Environmental Quality

Address: P.O. Box 10385, Jackson, MS 39289
Telephone: (601) 961-5130
Website: www.deq.state.ms.us

Mississippi Public Service Commission, Public Utilities Staff

Address: P.O. Box 1174, Jackson, MS 39215
Telephone: (800) 356-6428
Website: www.psc.state.ms.us

Environmental Protection Agency, Office of Ground and Drinking Water, Region IV

Address: Atlanta Federal Center, 61 Forsyth St. S.W., Atlanta, GA 30303
Telephone: (404) 562-9478
Fax: (404) 562-9439
Website: www.epa.gov

TECHNICAL ASSISTANCE

Communities Unlimited - RCAP

CU-RCAP provides intensive, long-term technical assistance free of charge to eligible water and waste water systems throughout Mississippi working under state and federal contracts. CU-RCAP does not charge annual membership fees for assisting systems with capital improvements, operations and maintenance assistance, or management and finance assistance. CRG-RCAP also conducts the certified Mississippi Board Management Training sessions throughout the state. For more information contact the following:

Alexander Brandon
Mississippi State Coordinator
Communities Unlimited / Rural Community Assistance Program
300 Castlewoods Blvd., Ste. 3, Brandon, MS 39047
Telephone: (601) 506-6305
Fax: (866) 647-6601
Website: www.communitiesu.org

MSDH, Engineering Services Branch

The Mississippi State Department of Health, Bureau of Public Water Supply's Engineering Services Branch conducts annual inspections and provides technical assistance to operators in solving operational, maintenance, and compliance problems. MSDH Engineering Services staff also serve as instructors for certified operator CEU training sessions and the short courses. This assistance is provided at no cost to all public water supply systems throughout the state. For more information contact the following:

William F. Moody, P.E., BCEE, Director of MSDH - Bureau of Public Water Supply
570 East Woodrow Wilson
Jackson, MS 39215
Telephone: (601) 576-7518

Mississippi Water and Pollution Control Operators' Association

MWPCOA provides certified operator CEU training sessions throughout the state in addition to conducting three short courses each year. MWPCOA also conducts the Mississippi Board Management Training sessions throughout the state. For more information contact

Linda Golladay, Administrator
P.O. Box 720399
Jackson, MS 39272
Telephone: (601) 857-0512
Fax: (601) 857-4193
E-mail: mwpcoa@earthlink.net
Website: www.mwpcoa.org

Mississippi Rural Water Association

The Mississippi Rural Water Association (MsRWA) is the largest water and wastewater membership organization in Mississippi. MsRWA provides training sessions held at various locations throughout the state for operators, managers, bookkeepers, and decision-makers. We provide the aforementioned with opportunities to earn Continuing Education Credits through these training sessions, as well as at our Operator Expos and State and National Technical Conferences. We host the largest annual technical conference and exposition for the water and wastewater industry in the state. MsRWA maintains a library of training manuals, information pamphlets, slides and videotapes for use upon request. MsRWA provides federal representation in the legislature through the National Rural Water Association (NRWA). Also, we study, guide, and encourage legislation at the state level. Our certified Circuit Riders, Wastewater Technicians and Groundwater Technician can assist you with the following:

<i>Water Audits/Leak Detection</i>	<i>Distribution Mapping</i>
<i>Smoke Testing</i>	<i>Altitude Valve Operations and Maintenance</i>
<i>Wastewater Pump Testing</i>	<i>Operations and Maintenance</i>
<i>Safe Drinking Water Act Compliance</i>	<i>Groundwater/Wellhead Protection</i>
<i>Cross Connection Control</i>	<i>Chlorination</i>
<i>Disinfection</i>	<i>Line Location (PVC)</i>
<i>Safety</i>	<i>Wells</i>
<i>Treatment Processes</i>	

Kirby Mayfield, Executive Director
5400 N. Midway Road
Raymond, MS 39154
Telephone: (601)857-2433
Fax: (601)857-2434
Toll Free: (800)343-2520
Email: msrwa@jam.rr.com
Website: www.msrrwa.org

FINANCIAL ASSISTANCE

Mississippi State Department of Health Local Governments and Rural Water Systems Improvements Board, Drinking Water State Revolving Fund (DWSRF) Loan Program

Telephone: (601) 576-7518
Website: www.msdh.state.ms.us/DWSRF

Mississippi Department of Environmental Quality Clean Water State Revolving Fund (CWSRF) Loan Program

Telephone: (601) 961-5171
Website: www.deq.state.ms.us

USDA - Rural Utilities Service Water and Waste Water Loan and Grant Program

Telephone: (601) 965-5460
Website: www.usda.gov/rus

Mississippi Development Authority (CDBG & CAP)

Telephone: (601) 359-3179

Website: www.mississippi.gov

Appalachian Regional Commission Grant Program

Telephone: (662) 844-1184

Website: www.arc.gov

Communities Unlimited Loan Opportunities

Telephone: (479) 443-2700

Website: www.info@communitiesu.org

OTHER STATE/FEDERAL GOVERNMENT AGENCIES

Mississippi State Auditor's Office

Telephone: (601) 576-2800

Website: www.osa.state.ms.us

Mississippi Attorney General's Office

Telephone: (601) 359-3680

Website: www.ago.state.ms.us

Mississippi Secretary of State's Office

Telephone: (601) 359-1350

Website: www.sos.state.ms.us

Mississippi State Tax Commission

Telephone: (601) 923-7000

Website: www.mstc.state.ms.us

Mississippi State Department of Insurance

Telephone: (601) 359-3569

Website: www.doi.state.ms.us

Mississippi Workers Compensation Commission

Telephone: (601) 987-4200

Website: www.mwcc.state.us

Internal Revenue Service

Telephone: (800) 829-1040

Website: www.irs.gov

U.S. Department of Labor, Occupational Safety & Health Administration

Telephone: (601) 965-4606

Website: www.osha.gov

U.S. Department of Labor, Wage and Hour Division

Telephone: (601) 965-4347

Website: www.dol.gov

U.S. Equal Opportunity Commission

Telephone: (601) 965-4537

Website: www.eeoc.gov

MISCELLANEOUS CONTACTS

Mississippi Association of Supervisors

Telephone: (601) 353-2741

Website: www.masnetwork.org

Mississippi Municipal League

Telephone: (601) 353-5854

Website: www.mmlonline.com

Mississippi Board of Engineers and Land Surveyors

Telephone: (601) 359-6160

Website: www.pepls.state.ms.us

Mississippi Board of Public Contractors

Telephone: (601) 354-6161

Website: www.msbec.state.ms.us

INFORMATION RESOURCES

American Water Works Association: *Reference publications and free “Water on Tap” periodical to members*

Address: 6666 West Quincy Ave., Denver CO 80235

Telephone: (303) 347-6284

Website: www.awwa.org

Mississippi State University Extension Service, Agricultural Economics: *Reference publications*

Lauren Behel

Address: Box 5187, Mississippi State, MS 39762

Telephone: (662) 325-6807 Fax: (662) 325-8777

E-mail: lauren.behel@msstate.edu

Website: <http://msucares.com/water>

National Drinking Water Clearinghouse: *Reference publications and free “On Tap” periodical*

Address: P.O. Box 6064, West Virginia University, Morgantown, WV 26506

Telephone: (800) 624-8301

Website: www.nesc.wvu.edu/ndwc

National Rural Water Association: *Reference publications*

Address: 2915 S. 13th Street, Duncan, OK 73533

Telephone: (580) 252-0629 Fax: (580) 255-4476

Website: www.nrwa.org



**Know what's below.
Call before you dig.**

Mississippi One-Call System

Address: 5258 Cedar Park Dr. Ste. H, Jackson, MS 39206
Telephone: (601) 362-4322
Toll-Free: 1-800-227-6477
Fax: (601) 366-7666
Website: www.ms1call.org
Email: onecall@ms1call.org

North District

Jerry Kennemur
Phone: 662-415-2904
Email: jkennemur@comcast.net

Central District

Henry Greer
Phone: 601-942-2106
Email: HGreer634@cs.com

South District

Charles Stallings
Phone: 228-234-1795
Email: charles@ms811.org

Bill Rutledge
Damage Prevention Coordinator
Phone: 601-362-4322 (office) 662-489-9722 (cell)
Email: bill@ms811.org

CALL BEFORE YOU DIG

**NOT JUST BECAUSE IT'S THE LAW –
LET'S BUILD A PARTNERSHIP ON
SIMPLY DOING THE RIGHT THING!**

Section XVII: References

Bylaws and Officer Responsibilities

The Board Systems Guide to Small System Policies, Community Resource Group, Southern RCAP, Springdale, AR.

Sample of Rural Water Association Bylaws, Rural Development-United States Department of Agriculture, RUS Bulletin 1780-20. (www.usda.gov/rus/water/wwregs.shtml)

Conducting Meetings

A Guide for Successful Board Meetings, Section 5, Rules of Conduct, Oklahoma Rural Water Association Training Program, Oklahoma Rural Water Association, 1997.

Small System Guide to Group and Conflict Management, Community Resource Group, Southern RCAP, Chapter 1, pp. 1-8, Springdale, AR.

Small System Guide To Hiring and Evaluating Employees, Community Resource Group, Southern RCAP, Springdale, AR.

Miller, E.G., and Ronnebaum, E., *The Water Board Bible: The Handbook of Modern Water Utility Management*, Kansas Rural Water Association, Chapters 3-4, pp.16-29. Appendices C, D, and E. pp. 88-94, 1993.

Bids and Contracts

Grayson, James, "Purchasing," Appendix 3, *Municipal Government in Mississippi: A Handbook for City Officials*, Edited by P.C. McLaurin, Jr., and Michael T. Allen, Center for Governmental Technology, 1997.

"Municipal Seminar Handout," Presented by Scott Rankin, Assistant Director, Mississippi Ethics Commission, August 1997.

House Bill 5, The Mississippi Legislature, 2002 Regular Session.

State and Federal Rules and Regulations

Manual of Instruction for Water Treatment Plant Operators. New York State Department of Health, Albany, NY, 1975.

Mississippi Code 1972 Annotated. State of Mississippi Legislature. Lawyers Cooperative Publishing, Rochester, NY, 1973.

National Interim Primary Drinking Water Regulations. Office of Water Supply, USEPA, Washington, DC EPA-570/9-76-003, 1976.

National Secondary Drinking Water Regulations. Office of Drinking Water, USEPA, Washington, DC EPA-570/9-76-000, July 1979.

Introduction to Water Quality Analysis. American Water Works Association, Denver, CO, 1982.

A Working Explanation of the Public Notification Rule. American Water Works Association, Denver, CO, 1990.

A Working Explanation of the Surface Water Treatment Rule. American Water Works Association, Denver, CO, 1990.

A Working Explanation of the Total Coliform Rule. American Water Works Association, Denver, CO, 1990.

Financial Reports

Small System Guide To Planning, Financing, and Constructing Facility Improvements, Community Resource Group, Inc./Southern RCAP, Springdale, AR.

Small System Guide to Rural Development Administration Management Reports, Rural Community Assistance Program, Leesburg, VA.

Small System Guide to Factors That Affect Capital Financing, Community Resource Group, Inc./Southern RCAP, Springdale, AR.

Small System Guide to Rural Development Administration Management Reports, Community Resource Group, Inc./Southern RCAP, Springdale, AR.

Small System Guide to Capital Improvements Planning, Community Resource Group, Inc./Southern RCAP, Springdale, AR.

Small System Guide to Risk Management and Safety, Rural Community Assistance Program, Inc., Leesburg, VA.

Lindsay, L. *Utility Management,* California State University, Sacramento, Office of Water Programs, 1998.

Peroo, M.D., *Financial Accounting Guide for Small Water Utilities,* Kansas Rural Water Association, 1997.

Miller, E.G., and Ronnebaum, E., *The Water Board Bible: The Handbook of Modern Water Utility Management.* Kansas Rural Water Association, 1993.

Mississippi Board Management Training, Community Resource Group, Inc./Southern RCAP, Springdale, AR.

Rural Utilities Service, *Water and Waste Disposal Programs,* August 1996.

Long-Range Financial Planning

Small System Guide to Rate Setting, Community Resource Group, Southern RCAP, Springdale, AR.

Miller, E.G., and Ronnebaum, E., *The Water Board Bible: The Handbook of Modern Water Utility Management,* Kansas Rural Water Association.

- “Water Rates,” Oklahoma Rural Water Association Training Program, Oklahoma Rural Water Association, 1997.
- “Water Rates,” *Information for Decision Makers, Rural and Small Systems Guide*, National Rural Water Association.
- Developing Rates for Small Systems: Manual of Water Supply Practices*, American Water Works Association, Denver, CO, 2004.
- Manning, Paige S., Alan Barefield, and Jonathan Mays. *Mississippi Survey of Drinking Water System Characteristics and Rate Structure*. Mississippi State University Extension Service. Mississippi State, MS 2004.
- Manning, Paige S., Alan Barefield, and Jonathan Mays. *Mississippi Water Association Financial Indicators Study*. Mississippi State University Extension Service. Mississippi State, MS 2004.
- Manning, Paige S., Alan Barefield, and Jonathan Mays. *Consolidation Issues: Pros, Cons, Options and Perceptions*. Mississippi State University Extension Service. Mississippi State, MS 2004.
- McLaurin, P.C. and Allen, M.T., *Municipal Government in Mississippi: A Handbook for City Officials*. Center for Governmental Technology, Mississippi State University Extension Service. Mississippi State, MS 2001.

Community Relations

- Browning, Ned. *Communications Strategies for New Extension Workers*. 1997. (Adapted from *Agricultural Experiment Station Communications Planning*, developed by the Communications Subcommittee of the Experiment Station Committee on Policy, 1988.)
- Miller, Ellen G. and Ronnebaum, Elmer. *Customers and You: Practical Communications for Small Systems*. Volume 2, 1995.
- Miller, Ellen G. and Ronnebaum, Elmer. *The Water Board Bible: The Handbook of Modern Utility Management*. Volume 1, revised edition, 1995.
- Simmons, Clint. *Public Relations for Rural and Small Water Systems*. National Rural Water Association, 1989.
 “Consumer Confidence Reports... A Chance To Get Your Two Cents In.” National Rural Water Association.
- Lindsay, L. *Utility Management*. California State University, Sacramento, Office of Water Programs, 1998.

Customer Service

- Anderson, Kristin and Zemke, Ron. *Delivering Knock-Your-Socks-Off Service*. American Management Association, NY, 1991.
- Clemens, Dan. “Customer Complaints Deserve Careful Handling,” *The Kansas Lifeline*. Kansas Rural Water Association. March 1998.
- Customer Service*, The Economic Press, Inc., Vol. 98, Number 1, Fairfield, NJ, 1998.

Gross, T.S. *Positively Outrageous Service*. Master Media Limited, NY, 1991.

Miller, Ellen G. *Customers and You: Practical Communications for Small Systems*. Volume 4, 1997.

Miller, Ellen G. and Ronnebaum. *The Water Board Bible: The Handbook of Modern Utility Management*. Volume 1, revised edition, 1995.

Murphy, Maripat. "Service Works," *A Customer Service Workbook for Water Utilities*. American Water Works Association, Denver, CO, 1993.

Operator Guidelines

Recommended Minimum Job Performance Guidelines & Regulation Governing the Certification of Waterworks Operators in the State of Mississippi. Mississippi State Department of Health, Bureau of Public Water Supply, Jackson, Mississippi.

Standard Operating Procedures

Water System Standard Operating Procedures. Community Resource Group, Inc./Southern RCAP, Fayetteville, Arkansas.

Policies and Ordinances

Comprehensive Customer Service Policy. Community Resource Group, Inc./Southern RCAP, Fayetteville, Arkansas

Municipal Water Utility Policies. Community Resource Group, Inc./Southern RCAP, Fayetteville, Arkansas.

Water Utility Long Range Plan. Community Resource Group, Inc./Southern RCAP, Fayetteville, Arkansas.

Emergency Response Plan

Water System Emergency Response Plan Template. Community Resource Group, Inc./Southern RCAP, Fayetteville, Arkansas.

Security Vulnerability Assessment Guide

Security Vulnerability Self-Assessment Guide for Mississippi's Public Water Systems. Mississippi Department of Health, Bureau of Public Water Supply, Jackson, Mississippi.

Role of City Officials

McLaurin, P.C. and Allen, M.T., *Municipal Government in Mississippi: A Handbook for City Officials*. Center for Governmental Technology, Mississippi State University Extension Service. Mississippi State, MS 2001.

Municipal Utility Policies

McLaurin, P.C. and Allen, M.T., *Municipal Government in Mississippi: A Handbook for City Officials*. Center for Governmental Technology, Mississippi State University Extension Service. Mississippi State, MS 2001.

Section XVIII: Appendix

Community Relations Example: Brochure

[Water System's Logo]

Commonly Asked Questions

1. How do I obtain service?
Call the utility office at 601-555-2433.
2. What do I need to obtain service?
You need to come to our office at 223 Hunter Street to fill out an application. Please bring positive identification and proof of residence. Also, there is a \$75 deposit to have service connected.
3. Where do I pay my bills?
You can either come to our office at 223 Hunter Street, or you can mail your payment to P.O. Box 102, Youngstown, MS.
4. Where does my water come from?
The majority of the water in Youngstown comes from Lake Winchester and is treated at our plant on Golden Road.
5. Is the water tested?
Absolutely. Our testing program exceeds state and federal requirements. Our personnel test for pesticides, bacteria, heavy metals, etc. Random samples are tested to ensure the highest water quality.
6. Who is responsible for fixing leaks in my house?
The water utility's responsibility ends at the water meter. We can help locate problems on your side of the meter if requested.
7. Do you add fluoride to the water?
Yes. The city of Youngstown adds fluoride as an aid to dental hygiene.
8. What is the hardness of the water?
Our water is soft. Our water averages a hardness of 40 mg/l. A hardness of 60 mg/l or less is considered soft.
9. How much do I pay for water?
For a single family home, the charge is 89 cents per hundred cubic feet (about 750 gallons), plus a monthly basic charge of \$4.50 for a 5/8 inch meter. Larger meters have a higher basic charge.

Community Relations Example: Fact Sheet

[Water System's Logo]

Water Conservation Tips

- Don't run water continuously when washing your car. Use a nozzle to control the flow of the water between rinsing.
- Check for leaky faucets and toilets. If any leaks are found, repair them immediately. Slow drips can use as much as 5,000 gallons of water a month.
- Take showers instead of baths. Replace showerheads with low-flow heads.
- Try to wash full loads when using your dishwasher and washing machine.
- If you water your lawn, water early in the morning.
- Put a thick layer of mulch around trees and plants. This will slow evaporation so you don't have to water as often.
- Don't allow children to play in hoses and sprinklers.
- Use a broom instead of a hose to clean driveways.
- Don't let water run continuously while shaving or brushing teeth.
- Do not use running water to thaw frozen foods. Defrost overnight or in a microwave.
- Never pour unused water down the drain when it can be used for something else, such as for watering a plant or for cleaning.

For more information, contact

[Water System's Name]

[Address]

[Phone Number]

[Contact Person]

Community Relations Example: President's/Mayor's Letter

(Courtesy of Kansas Rural Water Association)

{Put on letterhead. If desired, use the back as a self-mailer. **Do** use a P.S. That's what people read first.}

[Date: Month Year]

Dear Customer:

Survey results. Customers and your district are partners in making wise decisions for our community. Last fall your board authorized the first-ever customer opinion survey. It was sent to all 1,578 customers; 942 (59.6%) were returned, a very high rate. Here are some of the findings:

Softer water. Although 77.9 percent consider softer water as “somewhat or very” important, people don't want to pay much more than current monthly bills. Specifically, 32.2 percent said that they would pay nothing more; 50.4 percent would pay 10 percent more; 9.9 percent would pay 25 percent more, 5.8 percent would pay 50 percent more, and 1.7 percent would pay 75 percent more. Recall that the average [district name] bill for a family of four using 6,750 gallons/month is \$[].

In-home water treatment. 23.8 percent have in-home water treatment systems costing from \$20 to \$2,500.

Bottled water. 18.8 percent drink bottled water.

Pay stations. 48.7 percent said that they would like to pay bills at community locations such as a bank and grocery stores.

Demographic information:

58.5 percent of the respondents were men; 41.5 percent were women

All age groups were represented.

34.4 percent of the households consisted of two people and 20.8 percent consisted of four people

\$25,000 - \$39,999 was the most often named (29.6%) household income

Suggestions about improving service. 126 people made comments that ranged from very favorable to suggestions about water taste, appearance, operations, and costs. Work has already started in response to those suggestions.

What did the survey do? It helped the Board see that the #1 priority is keeping monthly bills low. That means we'll continue to use our current wells. Two other alternatives studied last year would have meant a minimum 70% increase in water rates.

The survey also helped the Board identify areas for customer education. One topic is the requirement for a pressure relief valve (PRV) brochure explaining their use in our very hilly area. It will be mailed to all customers shortly. For further information, call the office at [number] between [] and [], Monday through Friday.

State award. At the [association name]'s annual conference in October, General Manager [name] accepted “Best Rural Water Manager” of the year from President [name]. “This was a team effort,” said [first name of General Manager] to an audience of more than [number] in [city]. “Every one of our four employees has done outstanding work. On behalf of all of us, I accept this honor.” Congratulations to [first name] and the rest of the staff for a job well done.

Board and officers. At the December meeting, [name] was sworn in as a new director. The officers are [name them all]. Many thanks to outgoing officers [names], all of whom continue as directors.

Sincerely,

[name] President

P.S. If you would like to receive a summary of the customer survey, just give the office a call.

Community Relations Example: Water System Information Sheet

[Water System's Logo]

System Information

Number of water customers	985
Average daily water consumption	642,222 gallons
Highest daily water consumption	1,335,821 gallons
Deep-water wells	[# of gallons]
Water storage capacity - elevated tanks	[# of gallons]
Miles of water mains	[# of miles]
Number of cut-off valves	[# of valves]

Surface-water supply

Lake Williams (date established)	[# of gallons]
----------------------------------	----------------

Ground-water supply

Number of deep-water wells in system	[# of deep wells in system]
--------------------------------------	-----------------------------

[Water System's Name]

[Address]

[Phone Number]

[Contact Person]

Pipeline [SYSTEM LOGO and NAME]

[Month/Year]

[SIDEBAR #1—
sample only:]

Worried about the new
state fee?

**Check your rate or
meter size.**

Senate Bill [] requires a
new water user fee to be
collected annually by
each local water supply.
Per the law, residential
users pay a flat \$[] per
year. However, other
users pay according to
their meter size:

Meter Size Annual Fee

1" - < 2"	\$ []
2" - < 4"	\$ []
4" or more	\$ []

The fees will show up on
the [] monthly bill. The
fees go directly to the
Department of Internal
Revenue.

[LEAD ARTICLE — sample]

New state law requires water user fee

As of [date], all water users in the state of [name] will pay an annual fee. House Bill [number] requires the state's water users to pay fees based on the size of the community. City residential users will pay [amount] annually; other customers will pay according to a sliding scale.

"We have no choice but to pass on this fee to our users," said Mayor []. "We must start collecting it in three months and immediately turn revenue over to the Department of Internal Revenue."

According to Senate Bill (SB) [], the fee is to be used to comply with federal requirements for primacy agencies concerning the Safe Drinking Water Act. One major use of it will be to improve equipment and software at the State Laboratory, keeping fees lower for all systems.

"We recently compared the State Lab's fees with those of five other labs in and out of our state," said Superintendent []. "The State Laboratory is a 'best buy' for our customers; prices are usually 10 percent or more less expensive than other labs. We also found that more than 3/4 of the state's small systems (serving under 10,000 population) do use the State Lab regularly."

Facts about SB []:

- Residential customers pay \$[] per year.
- Other customers pay according to their meter size.
- The law goes into effect on [].
- Late fees will be assessed; add on a [] percent penalty.

SB [] assures that our state keeps primacy over all drinking water matters. If this bill hadn't passed, there was the risk of losing control to EPA Region [] based in []. "It's to the benefit of all water systems to keep state control," said Mayor [], who is also running for Governor in the upcoming primary election.

Student wins district art award

The city's 37th annual "Art of Distinction Award" went to [name], a senior at [] High School. "This award has gone to successful artists such as [] and []," said Mayor []. "We are thrilled to recognize [name] this year."

[Last name], who has been accepted to the [] University School of Art & Design, attended the last city council meeting. "It is a thrill to have been named the winner," [he/she] said. "When over 45 people compete, you know it'll be tough to even make the top three." Mayor [] presented [] with a \$500 scholarship check and plaque of recognition.

The 9-foot sculpture, entitled [name], is of the "found object" variety. Many commonplace items were welded together to make an artistic whole. The elements include hubcaps, garbage cans, screw drivers, clothes hangers, two 20-gallon cooking pots, and recycled aluminum cans. It will be housed in the sculpture garden adjacent to the water treatment plant.

The city estimates that about \$[] will be collected in the first year. Given the [] % growth annually over the past five years, the revenue should rise to \$[] the following year.

For further information, please contact the office at [phone number] between [hours open], Monday through Friday.

Also check out the city's website at [www.\[\]](http://www.[]) for late-breaking information concerning the water user fee. Our website also includes the e-mail addresses of all state legislators.

New city council member takes oath

In a first for our city, a visually challenged person has been sworn in as a council member from the [] district. [Name] was elected with a []% percent majority during the recent city elections.

"I consider being blind an asset," [] said. He contracted premature glaucoma when a child; by the age of 17, he was totally blind. "I listen much more carefully to what people say, to nuances of language, and even breathing."

[] uses drivers, readers, and the latest technology to keep up with his growing law practice. He is a member of [name] law firm, which just merged into []. His specialty is [] law.

[] is married to []. They have [] children, ages [] to []. His leisure activities include listening to music, live jazz performances, and swimming laps. He received the [] degree from []. Welcome to new Council Member []!

Community Relations Example: Press Release

(Courtesy of Kansas Rural Water Association)

{Put on letterhead or specially designed press release masthead. Sample only.}

For Immediate Release

For additional information, contact
[name, phone]

June 3, 199X

The [name] Water Corporation has won a round in its fight against higher prices from its water supplier.

The City of [name] voted on [date] to delay onset of the rate hike by 3 months, to [date]. The rate hike of 17.9 percent was originally scheduled to take effect in 2 weeks.

The not-for-profit [name] Water Corporation serves 1,073 residential and commercial customers in [name] and [name] counties. It buys treated water from the City of [name], distributing it through [] miles of pipe covering [] square miles.

“We are pleased that the city council saw fit to work with us,” said Board President [name]. “This delay gives us time to inform customers.” The increase will be passed through to all customers, effective [date], although there is some board discussion about hardship cases. “We’ve never had more than a 7 percent increase,” President [name] continued. “We want to work with all customers in carrying out this mandatory increase.”

Customers will see the new charges on all bills sent out after [date]. For the average family of four using 6,750 gallons of water per month, the current bill is \$[]. That bill would rise to \$ [].

Since 199X, the price of water sold by [city] to the Corporation has increased by [] percent. One outcome has been discussion by board members with the engineer about alternative sources of water.

“We are considering an engineering study about the feasibility and cost of drilling our own wells,” said General Manager [name]. “If we proceed, it would take about 9 months to conduct all the research.” The Corporation’s engineer is [name], based in [location]. At this time, no costs have been determined for the study.

Community Relations Example: Consumer Confidence Report

(Courtesy of Kansas Rural Water Association)

[WATER SYSTEM LOG
AND NAME]

199[X] Consumer
Confidence Report

Customers Protect Health Better With New Report

Americans now can better protect their families' health. How? By using new reports that link public health with their local water quality.

The 1996 Amendments of the Safe Drinking Water Act required that community water systems prepare an annual consumer confidence report. It discusses water source and levels of contaminants, if any. This is the first issue for [system name].

"Our first job is protecting this community's health," said [name, title]. "This new report shows our water quality and what it means." Customers with questions are urged to call the office at [telephone number] between the hours of [times]. Or check out our Internet site at [web site address]

Your Health and Water

Water is an essential element for life. Like air, another essential element, it contains some impurities—whether natural or man-made. When those impurities exceed health standards (which are set very low as a precaution), water systems must take action.

What do lead, copper, radionuclides, etc., mean for your health? Nothing, unless there's too much in the water you consume. For some susceptible populations, such as infants or the elderly, the effects can be more serious.

Here's a quick review of major health effects on specific groups. For more information, contact your physician or the office at [telephone number] between the hours of [times].

General Population

- ✓ *Asbestos*. This inorganic chemical occurs naturally and was used extensively in constructing buildings. Inhaled asbestos fibers have been identified as causing cancer; those ingested through drinking water are suspected as causing cancer.
- ✓ *Coliform bacteria*. Bacteria from sewage and from animal wastes present an immediate health risk. Coliform bacteria, specifically the presence of fecal and *E. coli* bacteria, affect the gastrointestinal system and may cause dysentery, hepatitis, typhoid fever, cholera, and other illnesses.
- ✓ *Copper*. Occasionally occurring in nature, copper frequently leaches out of plumbing in those water systems having corrosive water. It causes taste problems and stains porcelain. It can also cause stomach and intestinal distress.
- ✓ *Disinfection by-products (DBP's)*. Disinfection is widely used to treat water sources. However, DBP's may be formed that may contaminate the water with compounds that increase cancer risks.
- ✓ *Fluorides*. They occur naturally in many systems. They are added to some sources during water treatment to reduce tooth decay.

Water quality you can count on

It's a fact that the United States has the best water quality in the world. Scientific treatment of water began more than 100 years ago. Today, federal and state regulations require stringent treatment and testing.

As you can see from the test results on page two of this report, our system meets or exceeds all federal standards. If we didn't, you would have been notified and our utility would have corrected the situation.

Community Relations Example: Consumer Confidence Report (continued)

(Courtesy of Kansas Rural Water Association)

✓ *Inorganic Chemicals (IOC's)*. IOC's are elements or compounds that may occur in nature or may be caused through mining, industry, or agriculture. Amounts above the federally set maximum contaminant levels (MCLs) may cause a variety of damaging effects to the liver; kidneys; nervous, circulatory and gastrointestinal systems; blood; bones; or skin.

✓ *Lead*. In the past, lead was used for waterpipes, joints, and solders. It has been identified as a cause of central and peripheral nervous system damage and kidney effects.

✓ *Radionuclides*. These particles can occur naturally or in waste from man-made processes. Radionuclides, even in very small concentrations, pose a cancer risk.

✓ *Synthetic Organic Chemicals (SOC's)*. There are two types of SOC's: Volatile synthetic organic chemicals (VOC's) and pesticides/PCB's, which are discussed here. SOC's effects include damage to the nervous system, kidneys, and cancer risks.

✓ *Volatile Synthetic Organic Chemicals (VOC's)*. VOC's are man-made compounds used for a variety of industrial and manufacturing purposes. They have various effects on the liver, kidneys, and nervous system, and some pose a cancer risk.

Infants. Some IOC's are more damaging to infants than to the general population. Lead can be highly toxic to infants and the developing fetuses of pregnant women. (For more information, see contaminants listed under "General Population.")

Pregnant Women. Some IOC's are more damaging to pregnant women. (For more information, see contaminants listed under "General Population.")

"We at the [system name] work around the clock to provide top-quality water to every tap," said [name, title]. "We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life, and our children's future."

Know These Terms!
Here are _____ definitions consumers need to know: [Use EPA and state direction.]
What's the Source
The [name of system] has _____ sources. They are the following: 1. [Fill in as needed]

WATER QUALITY RESULTS 199X

Contaminant MCLG MCL Test result	Contaminant MCLG MCL Test result
----------------------------------	----------------------------------

[This chart will probably take about 2/3 of the back side of legal-size paper.]

Option: Contact your rural water association or other group that will prepare this report on contract.]

For further information...

[Water System's Logo and Name]

[Address/City/State/Zip]

[Phone Number]

[Fax Number]

[If applicable, e-mail and/or Internet address]

[If applicable, system's themeline]



**STATE OF MISSISSIPPI
OFFICE OF THE STATE AUDITOR
Annual Financial Report for Non-Profit Public Water Systems**

Annual Report Year Ending (month/year)

NOTE: This report must be prepared for each non profit public water system and must be provided to State Auditor's Office no later than 1 July of each year.

Name of Water System: _____

MDH PWS ID Number(s): _____

(List ID numbers for all water systems included in this report)

A) Receipts

Water bills _____
 Hook-up charges _____
 Interest income _____
 Loans and grants _____
 Sale of investments _____
 Other income _____

B) Total Receipts _____

C) Expenditures

Salaries _____
 Board per diem _____
 Fringe benefits _____
 Office supplies _____
 Utilities _____
 Insurance _____
 Repairs _____
 Contractual services _____
 Travel _____
 Capital outlay _____
 equipment _____
 construction _____
 construction contracts _____
 Debt payments _____
 principal _____
 interest _____
 Purchase of investments _____
 Other expenditures _____

D) Total Expenditures _____

E) Excess Receipts over Expenditures (B minus D) _____

	<u>Beginning of Year</u>	<u>End of Year</u>
Cash balance	\$ _____	\$ _____
Investments	\$ _____	\$ _____
Debt	\$ _____	\$ _____

I hereby certify that, to the best of my knowledge, this report is a complete and accurate report of the receipts and expenditures for this non-profit public water system(s). I further certify that, in accordance with Section 79-11-197 Mississippi Code of 1972 Annotated and the corporation's bylaws, an annual meeting of the membership was held: _____

(Date/Location of Annual Meeting)

Name of Board President (please print or type)

Signature of Board President

Date

→→ (CONTINUED ON BACK) ←←

Mail completed form to: Technical Assistance Division, State Auditor's Office, P.O. Box 956, Jackson, MS 39205

Example Water Tank Inspection Reports

INSPECTION REPORT

500,000 GALLON ELEVATED WATER TANK



Customer: |

Inspection Date: 06-10-2009

Tank Information:

Tank Name: Saddle Club Tank

Capacity: 500,000 gallons

Tank Builder: Phoenix Tank

Tank Style: Torus Bottom Elevated

Height to High Water Level: 111'6"

No. of Legs: 6

No. of Struts: 1

EXTERIOR STRUCTURE

Foundations:

All concrete foundations appear to be in good condition. The foundations have not settled, and there are no detrimental gouges or cracks. The grout between the tops of the foundation and the base plates of the column legs and the riser base plates is intact. The tops of the foundations are painted and in good condition.

Base Plates:

The column legs and riser base plates are in good condition.

Anchor Bolts:

The anchor nuts and bolts are in good condition.

Column Legs:

The column legs are in good condition.

Rods & Struts:

The tank is not missing any rods. All rods are in good condition. The struts are securely attached to the column legs and are in good condition.

Riser Pipe:

The riser pipe is straight and has no signs of leaks. The bottom of the riser pipe has an oval manway that is not leaking. The riser pipe is in good condition.

Tower Ladder:

The tower ladder is welded to a column leg and cut off 10' above grade. The ladder is equipped with a ladder gate (access prevention) and a notched rail safety climb device. The ladder is in good condition with no missing, bent, or otherwise deteriorated rungs or rails.

Tank Bowl:

There is no evidence of leaks and the bowl is in good condition.

Underside of Catwalk:

The underside of the catwalk is in good condition.

Topside of Catwalk:

The catwalk balcony has handrails and toe plates that are securely welded to the catwalk floor. There is no sign of corrosion in these areas at this time. The catwalk is in good condition.

Tank Shell:

The tank shell has a ladder from the catwalk that provides access to the roof. The condition of the ladder is the same as the tower ladder. The ladder is equipped with a safety climb device (Notched Rail). The tank shell has no evidence of leaks and is in good condition. The level indicator appears to be in good working condition.

Tank Roof:

The tank roof has a round manway which conforms to AWWA standards. The roof manway is functioning properly. The roof vent is in good condition. The vent openings are covered by a perforated metal screen that is in good condition. The roof is in good condition and has no signs of corrosion.

INTERIOR STRUCTURE

Ladder:

The interior tank ladder is bolted to support lugs, which are welded to the roof. The ladder is in good condition. The ladder is equipped with a notched rail safety device.

Roof:

The roof is in good condition.

Shell Walls:

The shell walls are in good condition. The tanks overflow pipe is located inside the tank, and appears to have no functioning problems or corrosion.

Tank Bottom and Riser Pipe:

The water level was not low enough during our inspection to view these areas but minor sediment was observed.

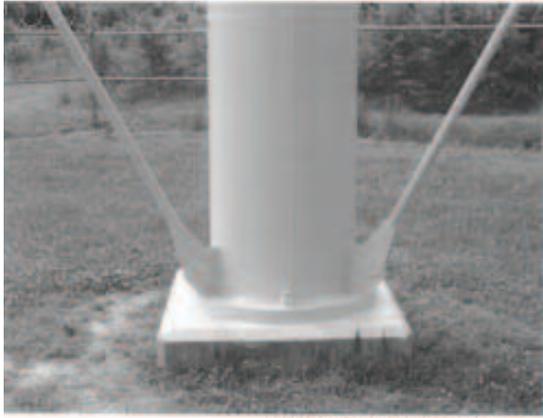
COATINGS

Interior:

The interior is coated with a two coat epoxy paint system. The finish coat color is white. The adhesion of the paint between coats and the bare metal is good. The paint thickness measured between 12-13 mils.

Exterior:

The exterior coating system measured between 10- 14 mils thick. The finish coat is in good condition. Exterior paint adhesion at this time is good and doing a good job of protecting the under lying steel.



View of foundations.



View of overflow pipe.



View of riser pipe.





View of riser and bowl bottom.



View of column.



View of column.





View of rods and struts.



View of rods and struts.



View of shell wall.





View of balcony.



View of shell wall.



View of shell wall.





View of roof.

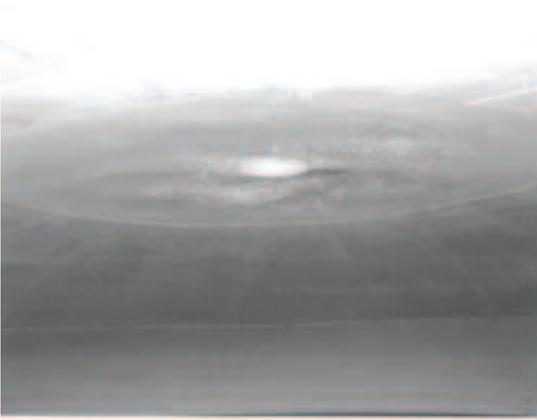


View of roof vent.



View of roof manway.





View of interior roof.



View of interior shell wall.



View of interior shell wall.



INSPECTION REPORT
110,000 GALLON ELEVATED WATER TANK



Customer:

Inspection Date: 10/28-2008

Tank Information:

Tank Name: Browns Creek Church Rd.

Capacity: 110,000 gallons

Tank Builder: CB & I, Re-Located by Mclean Tank

Date Built: 1994

Tank Style: Standard Elevated

Height to Low Water Level:

Height to High Water Level: 121' 6"

Head Range:

No. of Legs: 4

No. of Struts: 2

EXTERIOR STRUCTURE

Foundations:

All concrete foundations appear to be in good condition. The foundations have not settled, and there are no detrimental gouges or cracks. The grout between the tops of the foundation and the base plates of the column legs and the riser base plates is intact. The tops of the foundations are painted and are in good condition.

Base Plates:

The column legs and riser base plates are in good condition with minor mildew and 2-3 areas of spot corrosion located on the riser base plate.

Anchor Bolts:

The anchor nuts and bolts are in good condition.

Shell Walls:

The shell walls are in good condition with minor seam corrosion and staining covering 2% of the surface. The tanks overflow pipe is connected by two angel irons inside the shell wall and appears to have no functioning problems or corrosion.

Tank Bottom and Riser Pipe:

The water level was not low enough during our inspection to view these areas. Minor sediment was observed during our inspection.

COATINGS

Interior:

The interior is coated with a two coat epoxy paint system. The finish coat color is white. The adhesion of the paint between coats and the bare metal is good. The paint thickness measured between 10 & 21 mils.

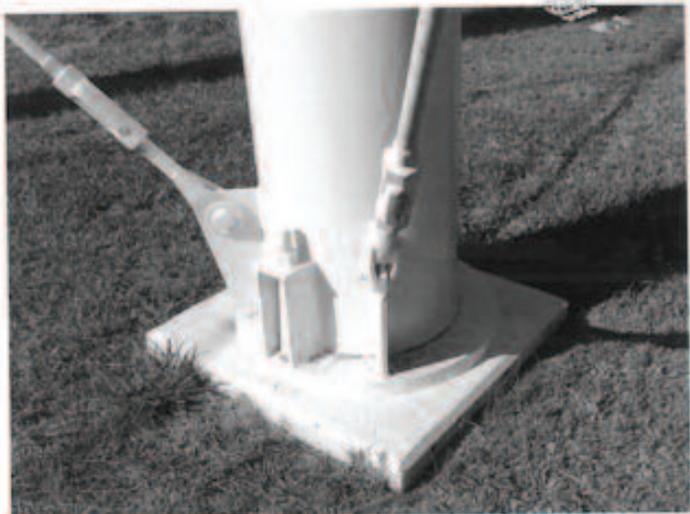
Exterior:

The exterior coating system measured between 11 & 20 mils thick. The finish coat is in good condition.

Exterior paint adhesion at this time is good and doing a good job of protecting the under lying steel.



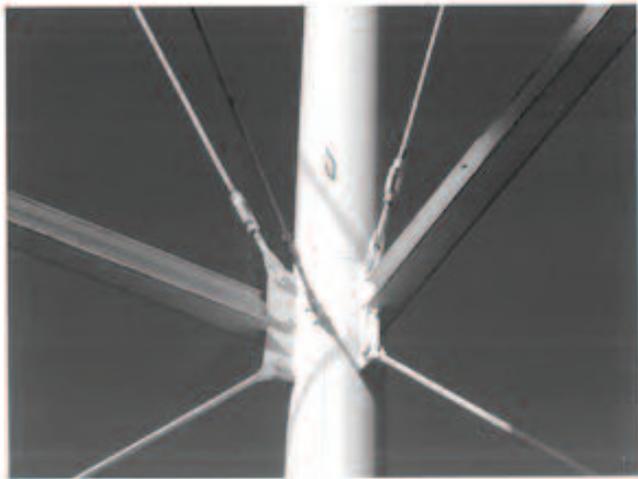
View of foundations, base plates, anchor nuts and bolts.



View of riser.



View of rods and struts.

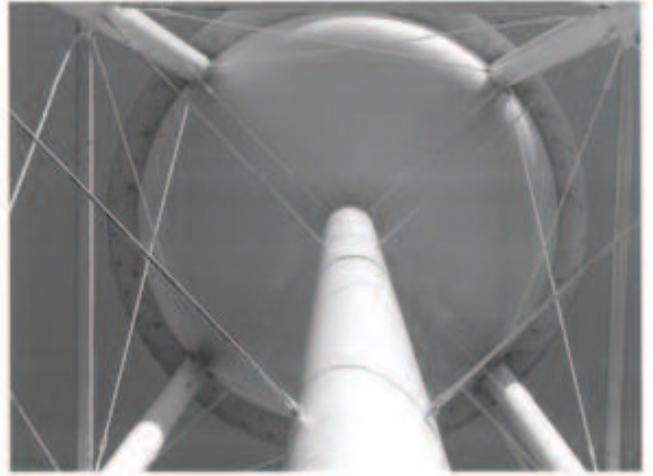




View of columns and exterior ladder.



View of riser pipe and bottom of bowl.



View of balcony.





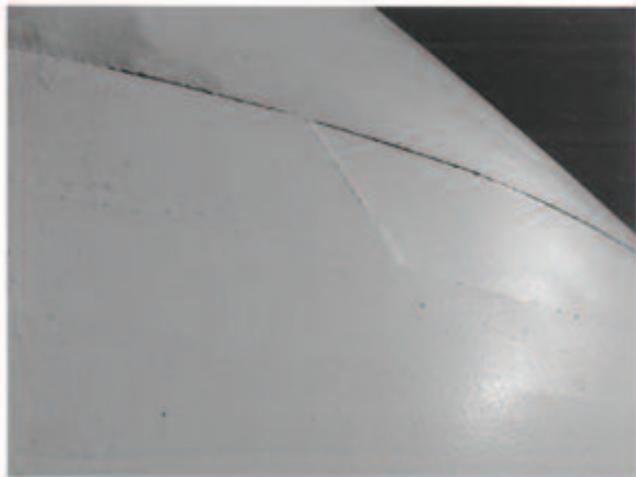
View of overflow pipe and flapper gate.

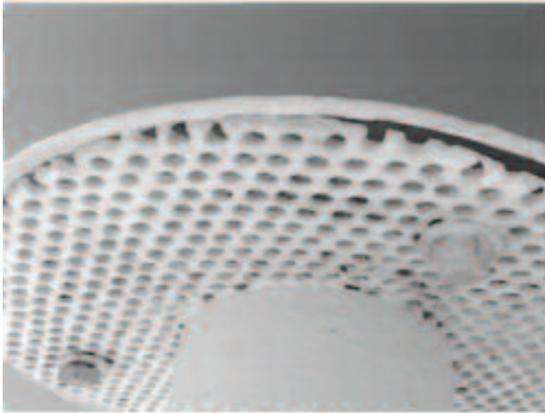


View of balcony.



View of shell wall.





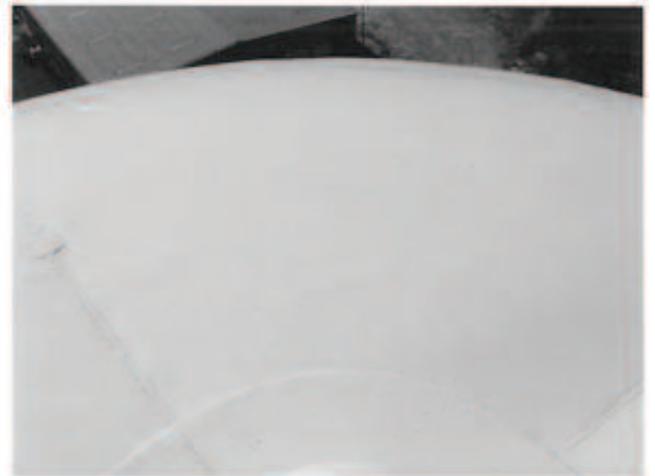
View of roof vent and screen.

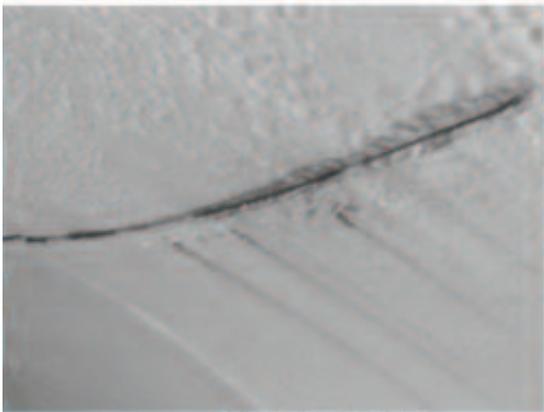


View of locked roof manway.

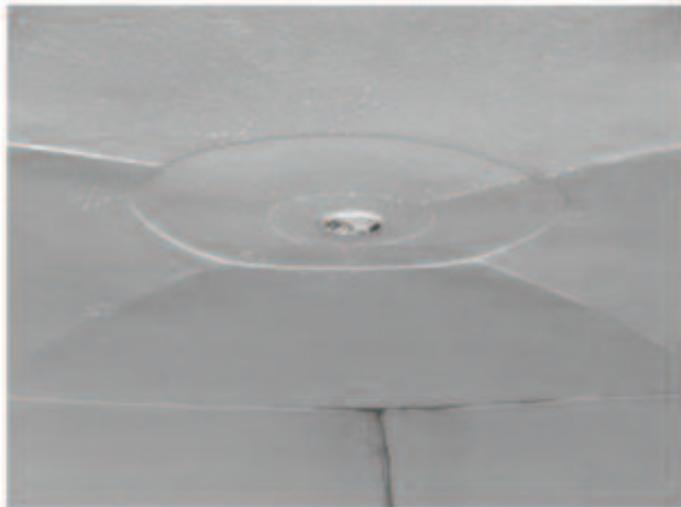


View of roof.





View of interior roof.



View of interior shell wall.



View of interior shell wall.





msu*cares.com*

Distributed by **Alan Barefield**, Extension Professor, Mississippi State University Extension Service

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M1541

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(12-15)